L 30734-66 EWP(f)/EWP(c)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6022113 SOURCE CODE: RU/0018/65/000/010/0577/0581

20

AUTHOR: Engel, Harry B.

ORG: none

TITLE: Contributions to the calculation of manufacturing cycles 14

SOURCE: Constructia de masini, no. 10, 1965, 577-581

TOPIC TAGS: industrial management, production engineering

ABSTRACT: The author analyzes the calculations involved in determining the duration of the manufacturing cycle for mass-produced items, and suggests some precautions to be observed if one is to assure correct determinations. Orig. art. has: 6 figures and 1 table. [Based on author's Eng. abst.] [JPRS]

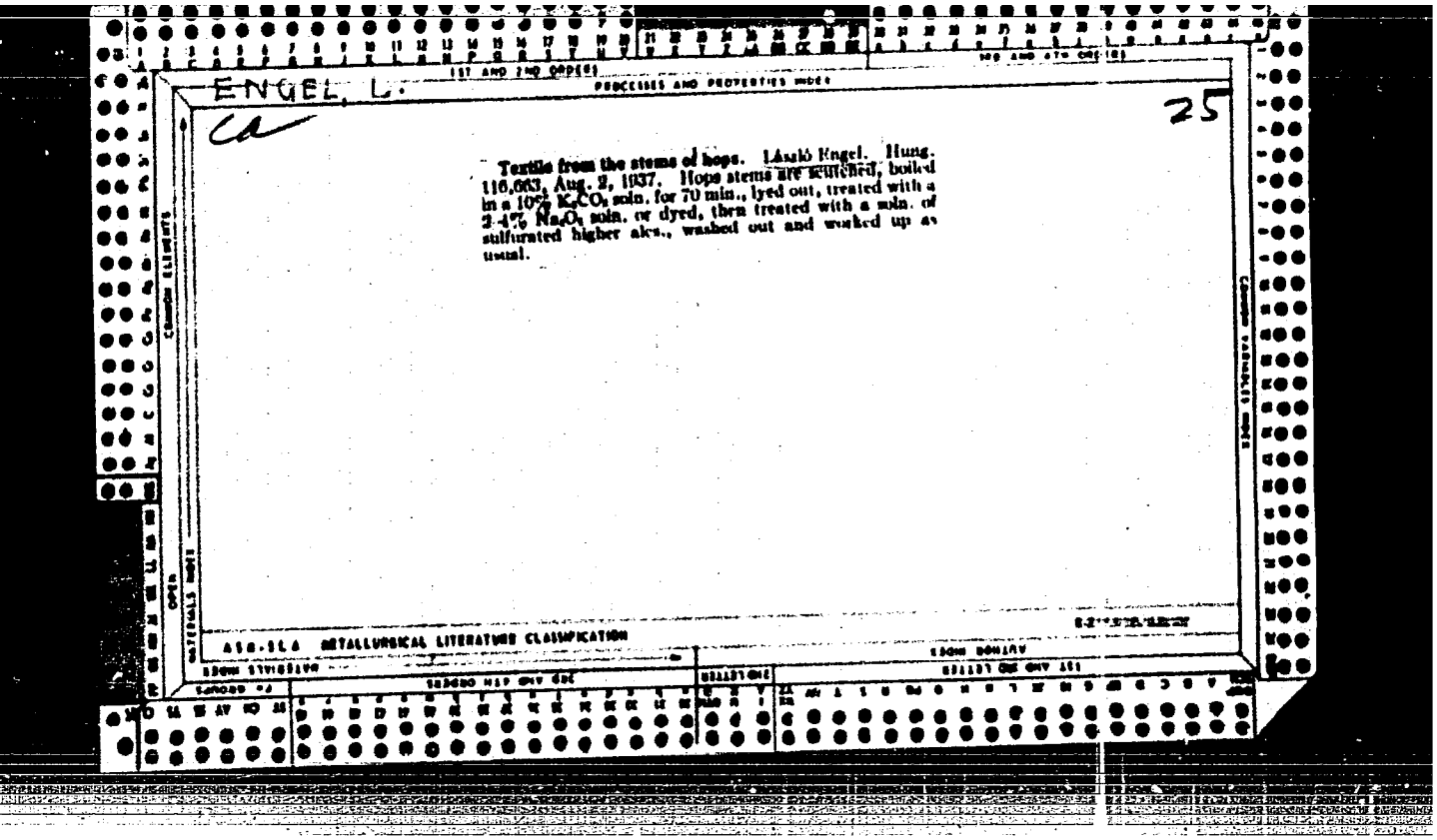
SUB CODE: 05, 14 / SUBM DATE: none

UDC: 62:338.062.5

ENGEL, J.

Determination of trigonometrical points by a graphic method. p. 105. (GEODETICKY A KARTOGRAFICKY OBZOR, Vol. 3, No. 6, June 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.


ENGEL, L.

25

Textile from the stems of hops. Laszlo Engel. Hung. 116,663, Aug. 2, 1937. Hops stems are scutched, boiled in a 10% K_2CO_3 soln. for 70 min., lyed out, treated with a 2-4% Na_2O_2 soln. or dyed, then treated with a soln. of sulfurated higher alcs., washed out and worked up as usual.

A10-SL4 METALLURGICAL LITERATURE CLASSIFICATION

Ba. ENGEL, L.

Technical uses of hydrazine. L. Engel. (Prakt. Chem., 1952, 3, 56-67)
A Review. A.R. Pearson

ENGEL, Leonard

Strange transmigrations of birds. Prir i znanie 16 no.2: 13-15 F '63.

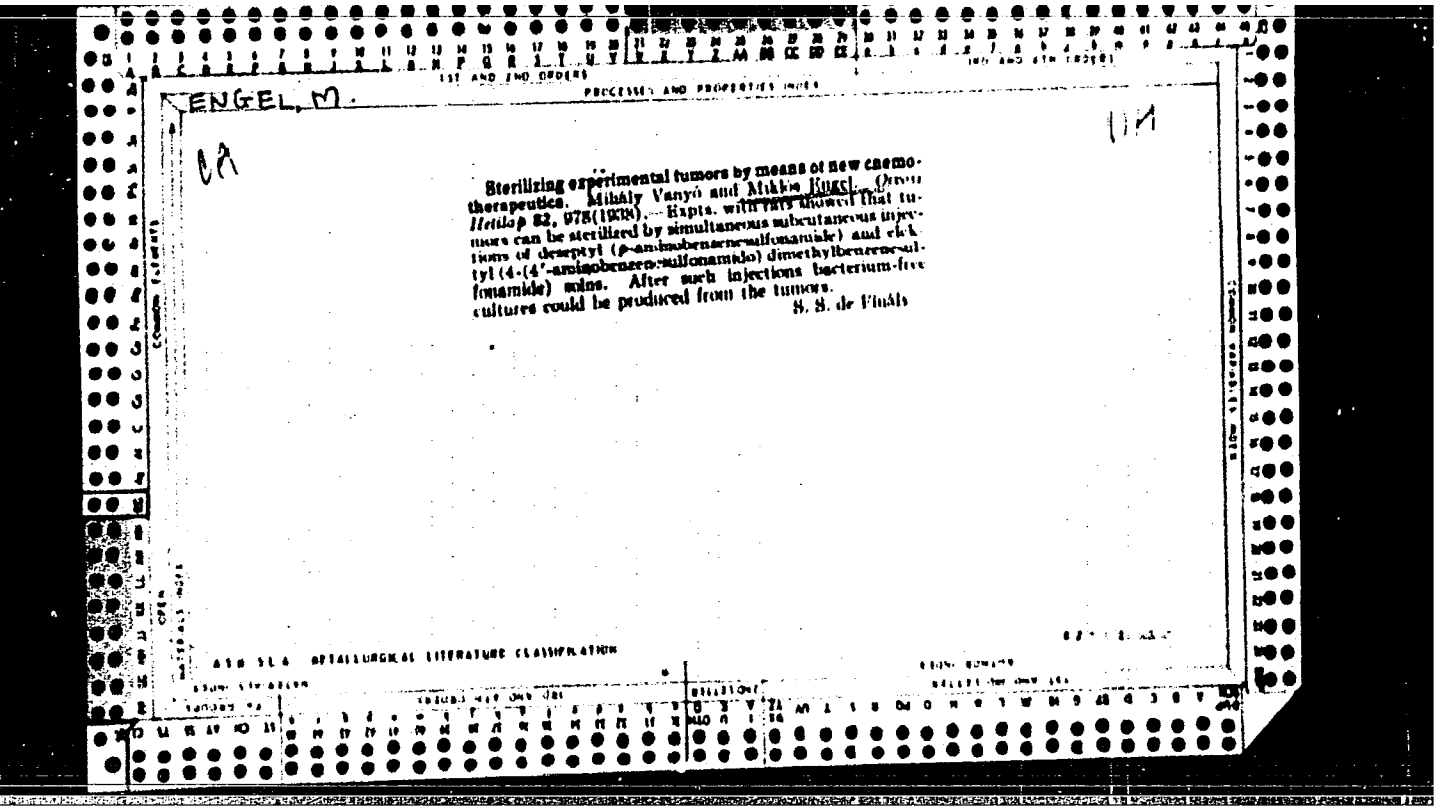
1. ENGEL', L. K., Eng.

2. USSR (600)

4. Loading and Unloading

7. Suggestions of rationalizers, Sbor. mat. o nov. tekh. v stroi, 15, no. 5, 1953.

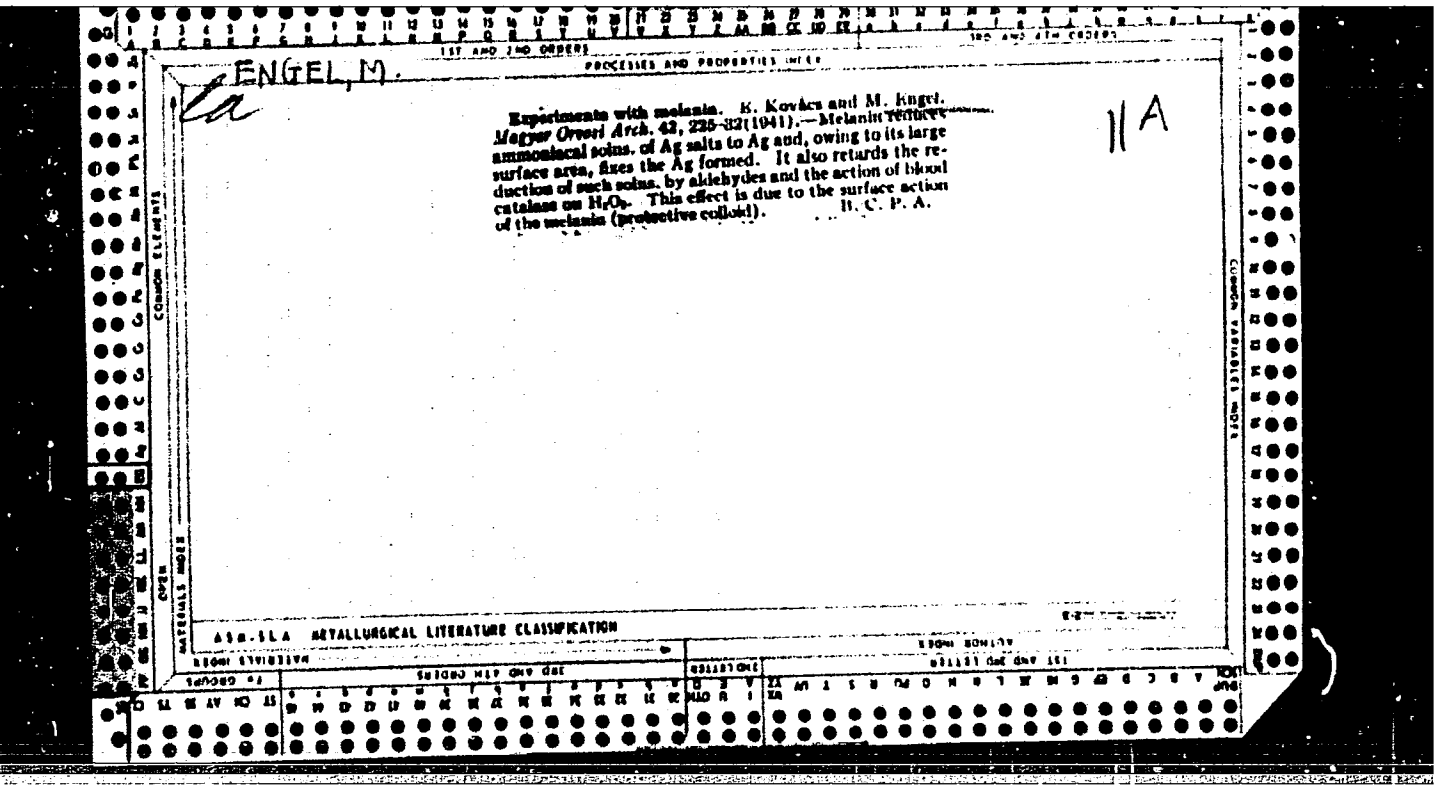
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.



ENGEL, M.

Sterilizing experimental tumors by means of new chemotherapeutics. Mihály Vanyó and Miklós Jüngst. *Orvosi Hetilap* 82, 975(1938).—Rapts. with rats showed that tumors can be sterilized by simultaneous subcutaneous injections of desoxyl (*p*-aminobenzenesulfonamide) and ethyl (4-(4'-aminobenzenesulfonamido) dimethylbenzenesulfonamide) mins. After such injections bacterium-free cultures could be produced from the tumors.

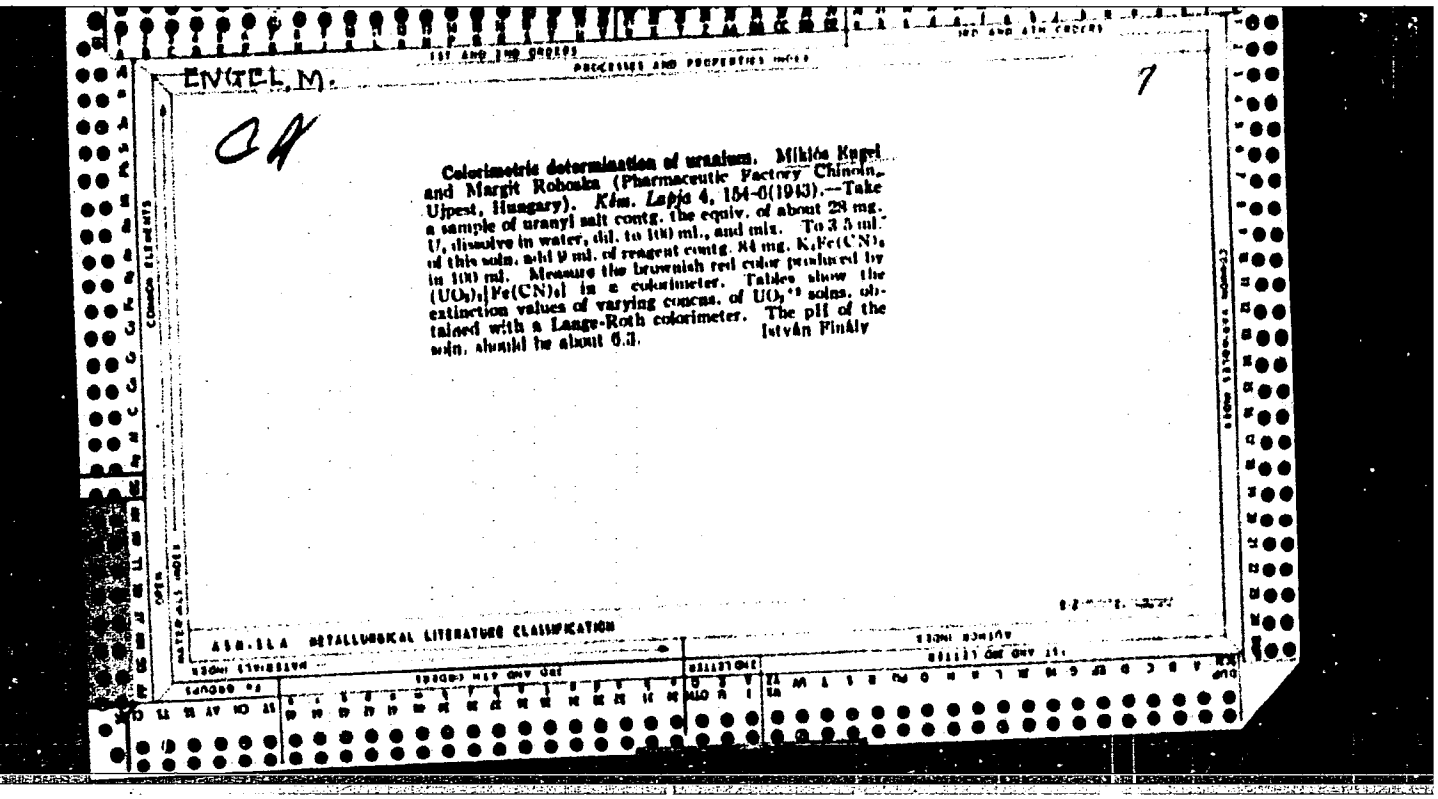
S. S. de Finály


ENGEL, M.

Experiments with melanin. K. Kovács and M. Engel. *Magyar Orvosi Arch.* 42, 225-32(1941).—Melanin reduces ammoniacal solns. of Ag salts to Ag and, owing to its large surface area, fixes the Ag formed. It also retards the reduction of such solns. by aldehydes and the action of blood catalase on H_2O_2. This effect is due to the surface action of the melanin (protective colloid). H. C. P. A.

11 A

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



ENGEL M.

7

Colorimetric determination of uranium. Miklós Kugel and Margit Roboska (Pharmaceutic Factory Chinoin, Ujpest, Hungary). *Kém. Lapja* 4, 184-6(1943).—Take a sample of uranyl salt contg. the equiv. of about 28 mg. UO_2, dissolve in water, dil. to 100 ml., and mix. To 3.5 ml. of this soln. add 9 ml. of reagent contg. 84 mg. $K_4Fe(CN)_6$ in 100 ml. Measure the brownish red color produced by $(UO_2)_2[Fe(CN)_6]$ in a colorimeter. Tables show the extinction values of varying concns. of UO_2^{++} solns. obtained with a Lange-Roth colorimeter. The pH of the soln. should be about 6.3. István Finály

A 5 8-5 L A METALLURGICAL LITERATURE CLASSIFICATION

ENGEL, OLEG

CZECH

Enrichment of basic slag with apatite. Oleg Engel. *Hutnické Listy* 10, 82-5(1955).—Results of expts. on enrichment of basic converter slag with powd. apatite are described. These results show that it is possible to carry out enrichment with careful control of slag compn. to maintain the ratio SiO_2: P_2O_5 near 0.42 and the content of CaO at about 48%. The addn. of an amt. of apatite causing the total content of P_2O_5 to rise above 10% is not economical, because with this amount of P_2O_5 it is not possible to maintain the content of SiO_2 and CaO necessary for soly. above 9%.

Petr Schneider

MG

ENGEL', O. S. Cand. Biolog Sci.

Dissertation: "Gas Exchange as a Factor in Fruit Ripening." Inst of Physiology of Plants imeni K. A. Timiryazev, Acad Sci USSR, 29 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

ENGEL', O.S.

PA 175T8

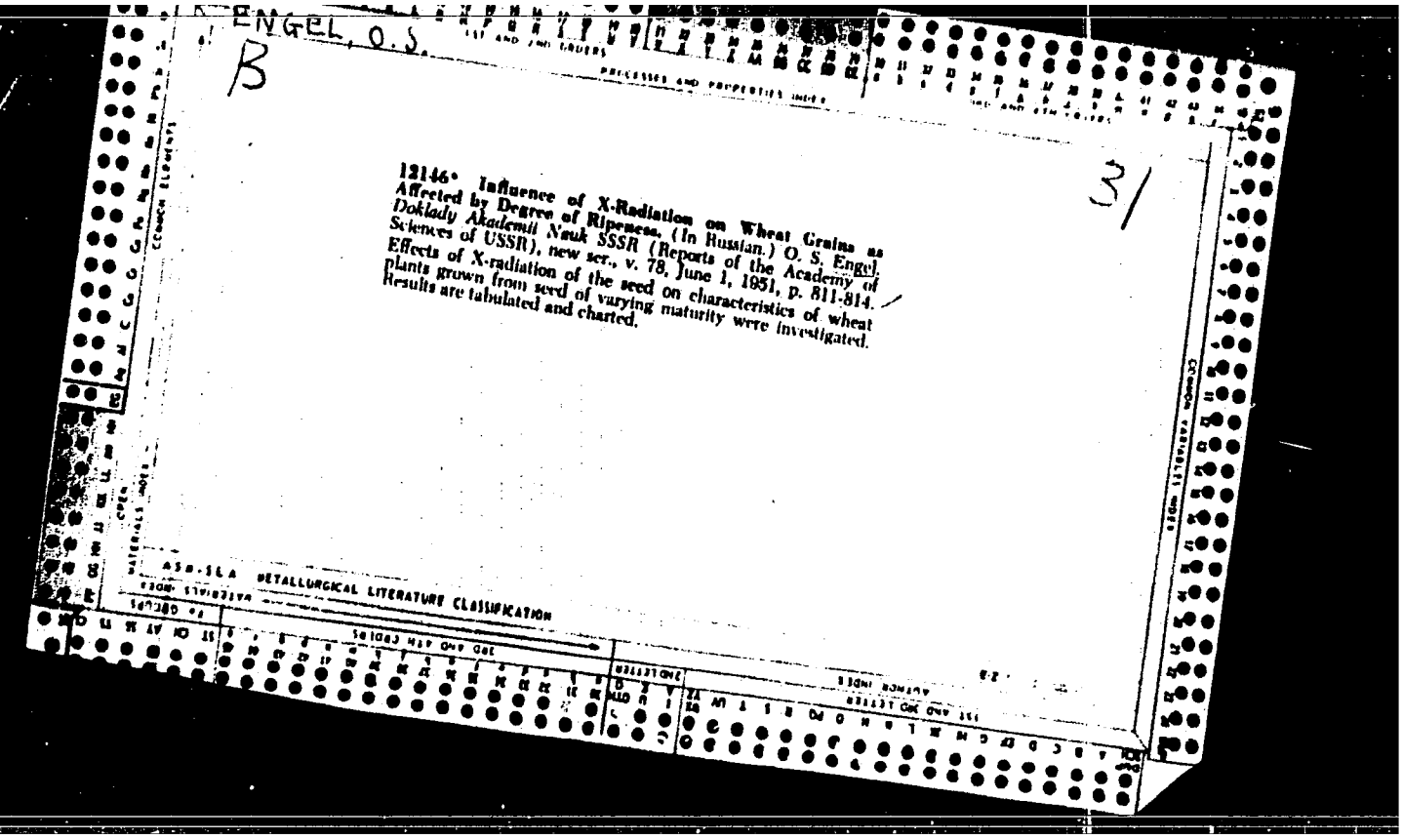
USSR/Biology - X-Rays, Effect of 21 Apr 50

"Influence of Vernalization of Winter Wheat Seeds on the Sensitivity of the Shoots to the Action of X-Rays," O. S. Engel', Inst Physiol of Plants imeni K. A. Timiryazec, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXI, No 6, pp 1151-1153

Expt discussed here studied growth of stems and roots of samples of winter wheat, vernalized and nonvernalized, over period of 4 days. Growth measured for vernalized and nonvernalized samples bombarded by different quantities of X-rays and compared to control sample not so bombarded. Submitted 25 Feb 50 by Acad N. A. Maksimov.

175T8



ENGEL', O. S.

Wheat

Relationship of the duration of swelling of wheat seeds and of the change in their sensitivity to irradiation.
Dokl. ANSSSR 85 no. 1, 1952.

Monthly List of Russian Accessions. Library of Congress November 1952. UNCLASSIFIED.

ENGEL', C. S.

X-rays - Physiclogical Effect

Physiological state of potato tubers is a factor in the X-ray sensitivity of their tissue. Dokl. AN SSSR 85 no. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

ENGEL', O.S.

ENGEL', O.S.

Mobilization of endosperm foods during the germination of sunflower seeds [with summary in English]. Fiziol. rast. 4 no.6:514-519 N-D '57. (MIRA 10:12)

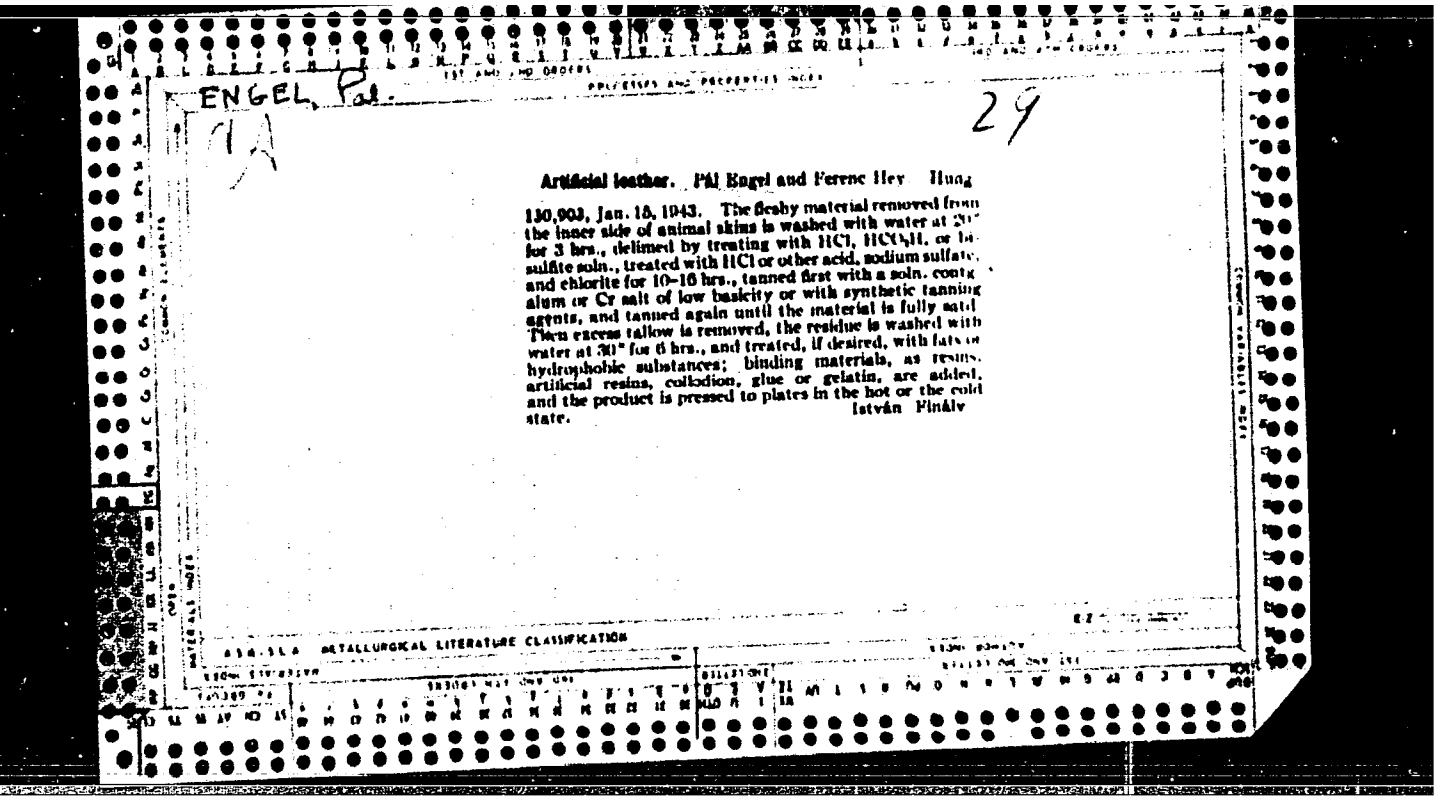
1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR, Moskva.
(Germination) (Sunflowers)

ENGEL', O.S.; PROKOF'YEV, A.A.

Effect of the water content of seeds on the mobilization of reserve substances during germination. Fiziol.rast. 7 no.1:44-48 '60. (MIRA 13:5)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences.

(Germination)



ENGEL, Pal.

1A

29

Artificial leather. Pál Engel and Ferenc Hev Hung

130,903, Jan. 15, 1943. The fleshy material removed from the inner side of animal skins is washed with water at 2[illegible] for 3 hrs., delimed by treating with HCl, HCO$_2$H, or la- sulfite soln., treated with HCl or other acid, sodium sulfate, and chlorite for 10–16 hrs., tanned first with a soln. contg alum or Cr salt of low basicity or with synthetic tanning agents, and tanned again until the material is fully satd. Then excess tallow is removed, the residue is washed with water at 30° for 6 hrs., and treated, if desired, with fats or hydrophobic substances; binding materials, as resins, artificial resins, collodion, glue or gelatin, are added, and the product is pressed to plates in the hot or the cold state.

István Finály

A54.51A METALLURGICAL LITERATURE CLASSIFICATION

ENGEL, V.

How machine-tractor stations should prepare for spring work. p. 57.
College-educated mechanizers in our ranks. p. 58.
MECHANISACE ZEMEDELSTVI, Praha, Vol. 5, no. 4, Feb. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955, Uncl.

AUTHORS: Engel', V.Yu., Kireyev, Yu.A. SOV/90-58-11-3/6

TITLE: Using the Automobile Starter ST-26 as a Starter for D6 Engines (Zapusk dvigateley D6 avtomobil'nym starterom ST-26)

PERIODICAL: Energeticheskiy byulleten', 1958, Nr 11, pp 18 - 21 (USSR)

ABSTRACT: The author proposes using the automobile starter ST-26 as a starter for the D6-cylinder engine. Besides an auxiliary compressed-air starter, the D6 engines were until now equipped with a powerful electrostarter ST 710 with 15 h.p. capacity. The author states that automobile starter ST-26 will do the same work about 30% cheaper, that it is easier to install and that its installation makes the installation of other auxiliary equipment easier. There are 3 photos, 1 circuit diagram, 2 tables and 2 Soviet references.

1. Internal combustion engine starters---Performance

Card 1/1

CHERNENKO, A.R.; SIMFOROV, G.Ye.; SHKUTA, E.I.; TEREKHOV, I.P.; POLYANSKIY, F.S.; PISANKO, K.S.; SHENDRIK, V.K.; AL'TSHULER, M.A.; RIVKIN, I.D.; ENGEL', Ya.R.; CHETYRKIN, M.I., red.izd-va; PYL'NEN'KIY, A.A., red.izd-va; OSVAL'D, E.Ya., red.izd-va; PROZOROVSKAYA, V.L., tekhn.red.

[Sharp increase in the labor productivity of Krivoy Rog Basin miners; practices in the "Bol'shevik" and "Gigant" mines] Krutoi pod"em proizvoditel'nosti truda gorniakov Krivbassa; iz opyta raboty shakht "Bol'shevik" i "Gigant." Moskva, 1960. 173 p. (MIRA 13:11)
(Krivoy Rog Basin--Iron mines and mining--Labor productivity)

ENGEL, V.

Effective organization of work is a guarantee for fulfillment of tasks by machine-tractor stations. p. 417.
We shall conclude the autumn work on November 28 ! p. 417.

MECHANISACE ZEMEDELSTVI. Praha. Vol. 4, no. 22, Nov. 1954.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956

ENGEL, Z., dr inz.

Problems concerning the dynamics of metallurgical machinery.
Hutnik 31 no.12:401-402 D '64.

ENGEL, Zbigniew (Krakow)

Nonlinear coupling in the centrifugal regulator. Zagad drgan nielin 3 65-71. '62.

BEBEN, Artur, mgr inz.; ENGEL Zbigniew, dr inz.; LOSIAK, Stanislaw, mag.iur.

Possibilities of shot-hole drilling in hardened iron slag.
Hutnik P 30 no. 7/8:229-235 Jl/Ag'63.

1. Akademia Gorniczo-Hutnicza, Krakow.

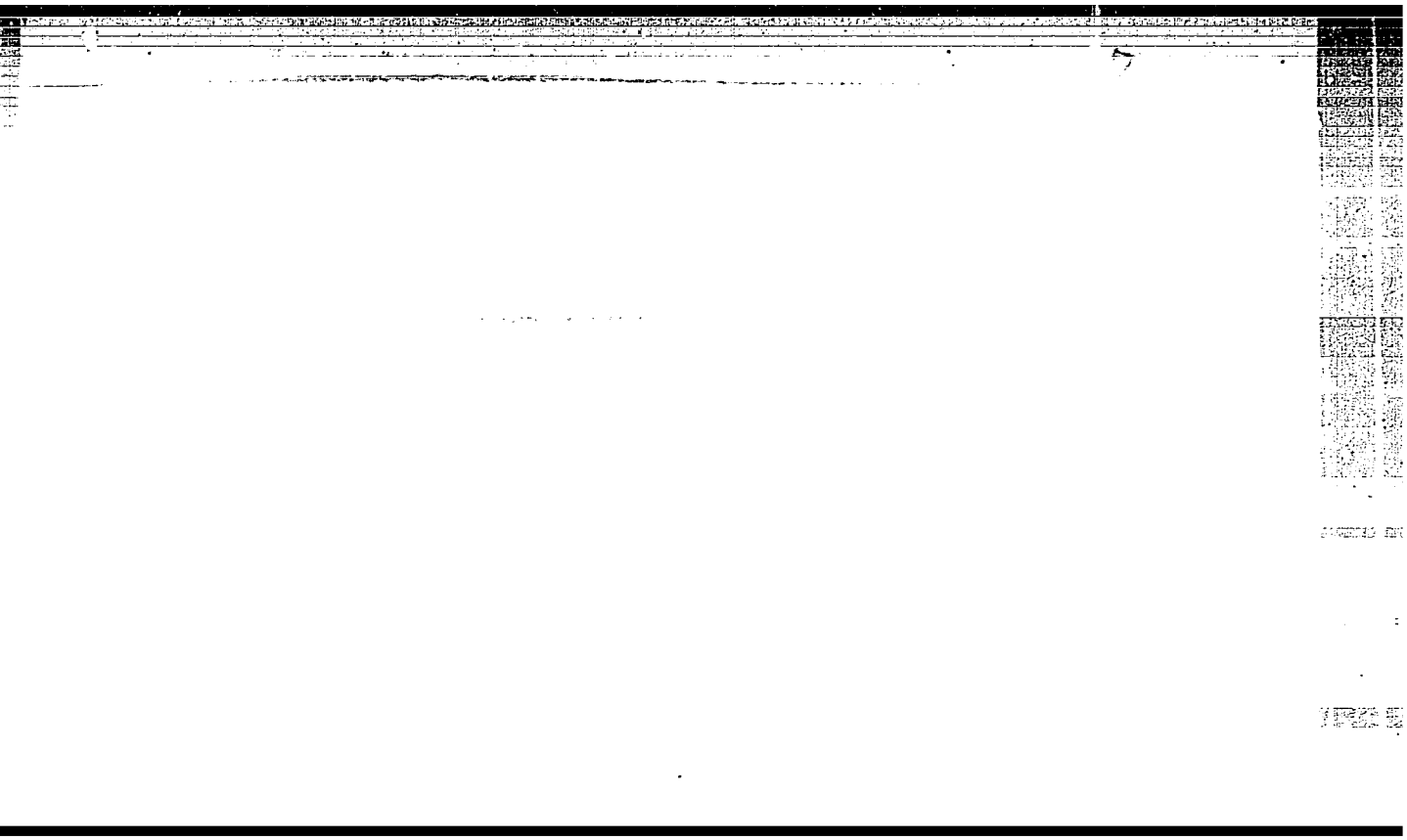
ENGEL'MAN, Iosif Moiseyevich; DANILOVA, V.M., red.; STREL'NIKOV, I.N., tekhn. red.

[This is very important for one's health]Eto ochen' vazhno dlia zdorov'ia. Ioshkar-Ola, Mariiskoe knizhnoe izd-vo, 1962. 153 p. (MIRA 15:10)

(HYGIENE)

IYEVLEV, Aleksey Vasil'yevich, inzh.; ENGEL'-KRON, I.V., red.; SHNEYEROV, S.A., red.izd-va; LELYUKHIN, A.A., tekhn.red.

[Operation of small steam turbines] Ekspluatatsiia parovykh turbin nebol'shikh moshchnostei. Moskva, Izd-vo M-va kommun. khoz.RSFSR, 1959. 266 p. (MIRA 12:12)
(Steam turbines)



ENGELBERTH, O.

Brucellosis. Cas. lek. cesk. 89 no.39:1082-1085 29 Sept. 1950.
(CLML 20:1)

1. Of the Third Internal Clinic in Prague (Head--Prof. J. Charvat, M. D.).

ENGELBERTH, O.; SCHMITTOVA, M.

Essay of development of anaphylactic carditis in mice. Cas.lek.cesk. 90 no.17:508-515 27 Apr 51. (CIML 20:8)

1. Of the Third Internal Clinic of Charles University (Head--Prof. J. Charvat, M.D.) and of the Second Pathologico-Anatomical Institute of Charles University (Head--Prof. V. Jedlicka, M.D.).

ENGELBERTH, O. and Others.

"Infarction of the Myocardium with a Perforation of the Interventricular Septum of the Heart Diagnosed in Vivo." p. 1259 (CASOPIS LEKARU CESKYCH, Vol. 92, No. 46, Nov. 1953) Praha, Czechoslovakia

SO: Monthly List of East European Accessions, Library of Congress, Vol. 3, No. 4, April 1954. Unclassified.

POLAK, H.; KUCHEL, O.; ENGELBERTH, O.

Influence of trophic nerves on hormonal function. 2. Cas. lek. cesk. 94 no.43:1150-1153 21 Oct 55.

1. Z III. interni kliniky KU v Praze, Prednosta akademik J. Charvat.
(NERVES, physiology
trophic funct., eff. of hormone metab.)
(HORMONES, metabolism
eff of trophic nerv funct.)

ENGELBERTH, O.; KUCHEL, O.; POLAK, H.

Effect of innervation on penetration of hyaluronidase through the connective tissue and its depression by sodium salicylate in vivo. Cesk. fysiol. 5 no.1:56-63 26 Mar 56.

1. III. interni klinika lekarske fakulty Karlovy university, Praha.

(HYALURONIDASE, metabolism,
connective tissue, eff. of myelotomy and sympathectomy in rats (Cz))
(CONNECTIVE TISSUE, metabolism,
hyaluronidase, eff. of myelotomy & sympathectomy in rats (Cz))
(SYMPATHETIC NERVOUS SYSTEM, physiology,
eff. of section on connective tissue penetration by hyaluronidase (Cz))
(SPINAL CORD, physiology,
same)

ENGELBERTH, O.; SCHMITTOVA, M.

Effect of sodium salicylate on experimental carditis in mice. Cas. lek. cesk. 96 no.33-34:1037-1041 23 Aug 57.

ENGELBERTH, O.

EXCERPTA MEDICA Sec 18 Vol 2/11 Cardio. Dis. Nov 58

3358. *Effects of mono- and di-hydroxy derivatives of benzoic acid on experimental carditis of mice* Účin mono- a dihydroxyderivátů kyseliny benzoové na pokusnou karditidu u myší. ENGELBERTH O., SCHMITTOVÁ M., VEČERKOVÁ J. and MALÝ V. III. Vnitrní KU; II. Pathol.-Anat. Ústav pro Lék. Chem. KU; Ústav pro Org. Zdravotnictví KU, Praha *Vnitřní Lék.* 1958, 4/2 (104—110) Tables 3

The anti-inflammatory action of mono- and di-hydroxy derivatives of benzoic acid was studied according to the degree to which these were able to prevent the development of anaphylactic carditis in white mice. All the derivatives had an anti-inflammatory action of varying degree, relatively least effective was M-hydroxybenzoic acid. The action of the compounds was statistically significant up to a 1% limit (for M-hydroxybenzoic acid only to a 5% limit). On the other hand the difference in anti-inflammatory action as compared with Na salicylate was not statistically significant with the exception of 2:6-dihydroxybenzoic (γ-resorcylic acid) and 3:5-dihydroxybenzoic acid (α-resorcylic acid). But there also, the difference is only significant on the 5% limit. (II, 18)

EXCERPTA MEDICA Sec 2 Vol 13/5 Physiology May 60

2627. RHEUMATIC FEVER PRODUCED AS MODEL DISEASE IN EXPERIMENTAL ANIMALS - Modelové onemocnění revmatické horečky vyvolané u pokusných zvířat - Engelberth O. and Schmittová M. Praha 2, u Nemocnice 1 - VNITŘNÍ LÉK. 1959, 5/8 (870-878)

Model diseases reproducing rheumatic fever in animals are of great importance for elucidating the pathogenesis of this disease and also for research on new drugs against rheumatic fever. All experiments on production of a model disease of this kind in animals rely on the following basic principle: as a result of some exogenous impulse a change of reactivity develops in the host, and is directly responsible for

the origin of pathological tissue changes. This is the basis for experiments using hypersensitivity to foreign proteins, or streptococci and their toxins, experimental induction of Shwartzman reactions with products from A-haemolytic streptococci, and experimental induction of tissue lesions by means of auto-antibody production. Only experiments using direct infection with bacteria and viruses discount changes of host reactivity. Brief mention is also made of Selye's experiments on rats using excessive doses of desoxycortone. None of the models in animals has so far reproduced all the features of rheumatic fever. The chronic course characteristic of rheumatic fever in particular, with its tendency to frequent exacerbations, escapes reproduction.

SCHMITTOVA, M.; ENGELBERTH, O.; SRAMKOVA, J.

Effect of aminopyrine, paraaminobenzoic acid and paraaminosalicylic acid on experimental carditis in mice. Cas.lek.cesk. 98 no.44:1365-1369 30 O '59.

1. II. patol. anatomicky ustav KU v Praze, prednosta prof. dr. V. Jedlicka, III. interni klinika KU v Praze, prednosta akademik J. Charvat.

(PARAAMINOSALICYLIC ACID pharmacol.)
(PARAAMINOBENZOIC ACID pharmacol.)
(AMINOPYRINE pharmacol.)
(MYOCARDITIS exper.)

ENGELBERTH, Otto; BLEHA, Otto; JEZKOVA, Zdenka; SRAMKOVA, Jarmila; Technicka spoluprace HORSKA, Eva

Autoimmune thyroiditis. Cas. lek. cesk. 101 no.31:948-950 27 Jl '62.

1. III interni klinika fakulty vseobecneho lekarstvi KU v Praze, prednosta akademik J. Charvat. Ustav hematologie a krevni transfuze v Praze, reditel prof. dr. J. Horejsi, DrSc.

(THYROIDITIS immunol)

ENGELBERTH, Oto; SCHMITTOVA, Marie

Effect of benzoic acid derivatives on experimental carditis in mice. Cas. lek. cesk. 101 no.28:860-864 13 Jl '62.

1. III. interni klinika fakulty vsebecneho lekarstvi KU v Praze, prednosta akademik J. Charvat. Patologickoanatomicke oddeleni OUNZ Most, vedouci MUDr. M. Schmittova.
(ALLERGY exper) (HEART DISEASES exper)
(BENZOATES toxicol)

ENGELBERTH, O.

3

CZECHOSLOVAKIA

ENGELBERTH, O; BLEHA, O; JEZKOVA, Z; SRAMKOVA, J.

Third Internal Medicine Clinic FVL KU and Institute of Hematology and Blood Transfusion (Z III. vnitrni kliniky FVL KU a Ustav hematologie a krevni transfuse), Prague - (for all)

Prague, Vnitrni lekarstvi, No 3, 1963, pp 255-258

"Autoagressive Thyroiditis."

CZECHOSLOVAKIA

ENGELMANN, O., Docent MD.

Third Internal Medicine Clinic of the Faculty of General Medicine of Charles University (III interni klinika fakulty vseobecneho lekarstvi KU), Prague

Prague, Prakticky lekar, No 11, 1963, pp 401-403

"Experiences of the Clinic During the Last Few Years in Epidemic Influenza."

CZECHOSLOVAKIA

BROUSIL, J., ENGELBERTH, O., SRAMKOVA, J., and TALPOVA, H. [Biophysical Institute (Biofyzikalni ustav), Faculty of General Medicine (Fakulta vseobecneho lekarstvi), Charles University, Prague, Docent Dr. Z. DIENSTBIER, director, and Third Clinic of Internal Medicine (III. interni klinika), Faculty of General Medicine, Charles University, Prague, Academician J. CHARVAT, director.

"Influence of Sodium Salicylate on Antigen Excretion and Antibody Formation in Rabbits"

Prague, Casopis Lekaru Ceskych, Vol CII, No 34, 23 August 63, pp 925-927.

Abstract [Authors' English summary]: Following an injection of human serum albumin labelled with I^{131} the authors investigated the influence of sodium salicylate on the antigen excretion from the blood circulation, formation of a soluble complex of antigen and antibodies, and formation of antibodies in rabbits. In a group receiving salicylate the authors found a lower activity in the alpha globulin fraction than in the control group on the 12th and 14th day. A possible interpretation of this phenomenon is presented. Six references.

BROUSIL, J.; ENGELBERTH, O.; SRAMKOVA, J.; TALPOVA, H.

Effect of sodium salicylate on antigen excretion and on antibody formation in rabbits. Cas. lek. cesk. 102 no.34:925-927 23 Ag '63.

1. Biofyzikalni ustav fakulty vseobecneho lekarstvi KU v Praze, prednosta doc. dr. Z. Dienstbier III interni klinika fakulty vseobecneho lekarstvi KU v Praze, prednosta akademik J. Charvat.
(SODIUM SALICYLATE) (ANTIBODY FORMATION)
(SERUM ALBUMIN, RADIOIODINATES)
(IMMUNE SERUMS) (ANTIGENS)

BLEGA, O.; ENGEL'BERT, O.; YEZHKOVA, Z.; SHRAMKOVA, Ya.

Importance of autoimmunization reactions in the diagnosis of diseases of the thyroid gland. Probl. endok. i gorm. 11 no.4: 21-25 Jl-Ag '65. (MIRA 18:11)

1. 3-ya terapevticheskaya klinika, Praga.

ENGELBERTH, O.; JEZKOVA,Z.; HLEHA,O.; MALEK,J.; BENDL.J. Technicka spoluprace MORAVCOVA,S.; KADEROVA,M.

Autoantibodies in Sheehan's syndrome. Cas. lek. cesk. 104 no.4: 108 29 Ja '65

1. III. interni klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta akademik J. Charvát); Ustav hematologie a krevni transfuze (reditel prof. dr. J. Horejsi, DrSc.); I. porodnicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. J. Klaus, DrSc.) a II porodnicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. J. Lukas, DrSc.)

BLEHA, O.; ENGELBERTH, O.; JEZKOVA, Z.; SRAMKOVA, J.

Findings of antibodies in various clinical states of the thyroid gland. Cas. lek. cesk. 104 no.12:323-326 26 Mr '65.

1. III. interni klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta: akademik J. Charvat); a Ustav hematologie a krevni transfuze v Praze (reditel: prof. dr. J. Horejsi, DrSc.).

ENGELBERTH, O.; JEZKOVA, Z.; BLEHA, O.; MALEK, J.; BENDL, J.; Technicka spoluprace: MORAVCOVA, S.; KADEROVA, M.

Autoantibodies in Sheehan's syndrome. Vnitrni lek. 11 no.8:737-741 Ag '65.

1. III. vnitrni klinika (prednosta akademik J. Charvat), Ustav hematologie a krevni transfuze (reditel prof. MUDr. J. Horejsi, DrSc.), I. porodnicka klinika (prednosta prof. MUDr. J. Klaus, Dr.Sc), II. porodnicka klinika (prednosta prof. MUDr. J. Lukas, Dr.Sc).

BLEHA, O.; ENGELBERTH, O.; JEZKOVA, Z.; SRAMKOVA, J.

Antibodies in various clinical conditions of the thyroid. Rev. Czech. med. 11 no.4:246-250 '65.

1. Third Medical Clinic, Faculty of General Medicine, Charles University, Prague (Director: Academician J. Charvat) and Institute of Haematology and Blood Transfusion, Prague (Director: Prof. J. Horejsi, M.D., D.Sc.).

CZECHOSLOVAKIA

ENGELBERTH, O., JEZKOVA, Z., BLEHA, O., MALEK, J., BENDL, J.

1. Clinic of Internal Medicine (III vnitrni klinika), (for ?); 2. Institute of Hematology and Blood Transfusions (Ustav hematologie a krevni transfuze), (for ?); 3. First Obstetrical Clinic (porodnicka klinika), (for ?); 4. Second Obstetrical Clinic (II porodnicka klinika), (for ?).

Prague, Vnitrni lekarstvi, No 8, August 1965, pp 737-741.

"Autoantibodies in Sheehan's syndrome."

(5)

Endocrinology

CZECHOSLOVAKIA

ENGELBERTH, O.; SRAMKOVA, J.; 3rd Internal Clinic and Laboratory for Endocrinology and Metabolism, Faculty of General Medicine, Charles University (III. Interni Klinika a Laborator pro Endokrinologii a Metabolismus Fakulty Vseobecneho Lekarstvi KU), Prague, Head (Prednosta) Member of Academy J. CHARVAT.

"Immonochemical Determination of Hormone Level in Blood. - Insulin."

Prague, Casopis Lekaru Ceskych, Vol 105, No 23, 10 Jun 66, Lekarska Veda v Zahranici, pp 105 - 112

Abstract: Chemical and immunological properties of insulin are described. Various forms of insulin found in the blood, and methods for the determination of insulin are discussed. Methods for the determination of insulin in the plasma are evaluated. The various levels of insulin found in some physiological and some pathological conditions are described. 119 Western, 4 Czech references.

ENGEL'GARDT, A. N.

25055. ENGEL'GARDT, A. N. Iz Neopublikovannykh Pisem A. N. Engel'gardta K A. P. Mertvago O V. V. Dokuchayeve. (1890-1891) Trudy Yubileynoy Sessii, Posvyashch. Stoletiyu So Dnya. Rozhdeniya Dokuchayeva. M.-L., 1949, S 679-81.

SO: Letopis' No. 33, 1949

SOV/20-124-4-60/67

17(3)

AUTHORS: Zil'ber, L. A., . . Member of the Academy of Medical Sciences,USSR, Abelev, G. I., Avenirova, Z. A., Engel'gardt, N. V., Baydakova,Z. L.

TITLE: On the Differences in the Antigen Structure of the Cytoplasm Granulae of the Liver and of the Hepatoma in Mice (O razlichiyakh antigennoy struktury tsitoplazmaticheskikh granul pecheni i gepatomy myshey)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 937-939 (USSR)

ABSTRACT: Malignant tumors contain specific tumor antigens (Refs 1,2), the isolation and study of which is at present among the most topical problems. The evaluation of the precipitation reaction in the gel (Ref 3) combined with the chemical separation of tissue antigens proves appropriate for this purpose. By this method, the number of the individual antigens in the system can be determined, and these individual antigens can be compared with each other. Said reaction has several advantages over other reactions. The authors studied its applicability in the gel, in order to clarify the antigen differences of tumor and normal tissues. Contrary to previous papers, an investigation was made, not of the protein fractions, but of the cell granulae, as they undergo antigen changes on malignisation (Refs 7-9). For the purpose of a comparative evaluation of the

Card 1/3

On the Differences in the Antigen Structure of the Cytoplasm Granulae of the Liver and of the Hepatoma in Mice

results obtained by different methods, the anaphylaxis reaction with desensitization was employed. The work was carried out with the entwisted heparomata of strain C_3HA mice (Ref 10) and with the livers of these mice. The granulae mentioned in the title were isolated from the perfused liver by means of a separator, from a 10 %-homogenate in an isotonic saccharose solution. Electron microscope analysis showed the granulae fraction to consist of a mixture of mitochondria and microsomes. Rabbits were immunized (a) with a lanolin depot, and (b) without a depot. For the purpose of a better clarification of the qualitative and quantitative differences between the preparations to be compared, the reaction was carried out in the following way: homologous sera and the antigen were placed at opposite angles of a square (Figure 1). The antigens common to the systems to be compared yield a uniform spectrum ab, which is situated between the alveoles with heterologous antigen and serum. Antigens that are characteristic of one system only show bands running along the diagonal of the square, their ends touching the containers of the heterologous systems (cd, ef). Figure 2 gives the results of the comparison between the protein fractions MmP and MmG.

SOV/20-124-4-60/67

On the Differences in the Antigen Structure of the Cytoplasm Granulae of the Liver and of the Hepatoma in Mice

The results attained in the agar medium by the method of precipitation were compared with those obtained by the method of anaphylaxis (with desensitization). Table 1 shows that the two methods yielded identical results (cf. Refs 6,9). Thus the two above mentioned methods lead to the detection of a specific antigen in the heparoma granulae in mice which is but absent in the liver. At the same time antigens were found in the liver granulae which disappear on cancerization. The method described facilitates the evaluation of the behavior of individual antigens in complex systems, and opens new ways of their chemical isolation.-There are 3 figures, 1 table, and 11 references, 7 of which are Soviet.

ASSOCIATION: Institut epidemiologii i mikrobiologii im. N. F. Gamaleya Akademii meditsinskikh nauk SSSR (Institute of Epidemiology and Microbiology imeni N. F. Gamaley of the Academy of Medical Sciences, USSR)

SUBMITTED: September 4, 1958

Card 3/3

17(3) SOV/20-124-6-40/55

AUTHORS: Abelev, G. I., Avenirova, Z. A., Engel'gardt, N. V., Baydakova, Z. L., Stepanchenok-Rudnik, G. I.

TITLE: An Organospecific Antigen of the Liver Absent in the Hepatoma (Organospetsificheskiy antigen pecheni, otsutstvuyushchiy v gepatome)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1328-1330 (USSR)

ABSTRACT: The problem of the antigen simplification in malignisation arised when it was proved (Refs 1-3) that mitochondria and microsomes of the liver are losing the organospecific antigen in the experimental canceration. This simplification was confirmed (Ref 4), but at the same time an organospecific antigen was found in the hepatoma. Yet the question is not solved in many respects (Ref 5). The authors investigated this problem on cytoplasmic granulae and on a hepatoma transferable by vaccination by means of precipitation in agar (Ref 6). For this purpose the hepatoma and liver of C_3HA mice and other mice species were used. The preparation method of antigens of the mitochondria and microsomes from the liver (MML) and from

Card 1/3

the hepatoma (MMH) and the performance of the reaction were previously described (Ref 7). The fact of antigen simplification of the MML compared with MMH, as such becomes very clear (Fig 1). The bands of the lost antigens can be seen in all preparations (up to 4 antigens in the protein fraction of the MML). It was of interest to check the organospecificity of the lost antigens. For this purpose the anti-MMP serum was partly neutralized by a solution of renal MM, the precipitate was removed and the serum obtained was determined with antigens of liver, hepatoma, kidney and spleen. It was found that the antigen bands missing in the hepatoma are also missing in the MMs of the kidney and spleen. Apparently the antigens detected by the authors are specific of the liver only. Thus the data obtained by the authors (by a different method and from a different tumor) confirm the results of Weiler (Refs 1-3). The question of the occurrence of organospecific antigens in the hepatoma remains unsolved. The authors succeeded in isolating one of these antigens (AO) and in investigating its immunologic specificity. This isolation is based on the fact that AO is most closely connected with the MML-wall and is left there after the extraction of the other agents.

An Organospecific Antigen of the Liver Absent in the Hepatoma SOV/20-124-6-40/55

One of the methods of AO isolation is described. Its reactions are presented in the figures 2-4. The authors were thus able to isolate one of the organospecific liver antigens which are absent in the hepatoma. The investigation is continued with regard to the explanation of its chemical nature, localization within the cell, etc. There are 4 figures, 1 table, and 9 references, 1 of which is Soviet.

PRESENTED: September 27, 1958, by V. A. Engel'gardt, Academician

SUBMITTED: September 21, 1958

Card 3/3

ENGELGARDT, N. V. (USSR)

"The study of monospecific antitumour immune sera by the methof of fluorescent antibodies."

report submitted for the European Conference on Tumor Biology (UICC), Warsaw, Poland
22-27 May 1961

Gamaleya Inst. of Epidemiology and Microbiology, M. Schukinskaya 13, Moskva, D-182

ENGEL'GARDT, N.V.; ABELEV, G.I.

Connective tissue antibodies in monospecific antitissue sera. Biul. eksp. biol. i med. 53 no.5:94-98 My '62. (MIRA 15:7)

1. Iz otdela immunologii i onkologii (zav. - prof. L.A. Zil'ber) Instituta epidemiologii i mikrobiologii imeni N.F. Gamalei AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR L.A. Zil'berom.

(CONNECTIVE TISSUE) (ANTIGENS AND ANTIBODIES) (SERUM)

ENGEL'GARDT, N.V.

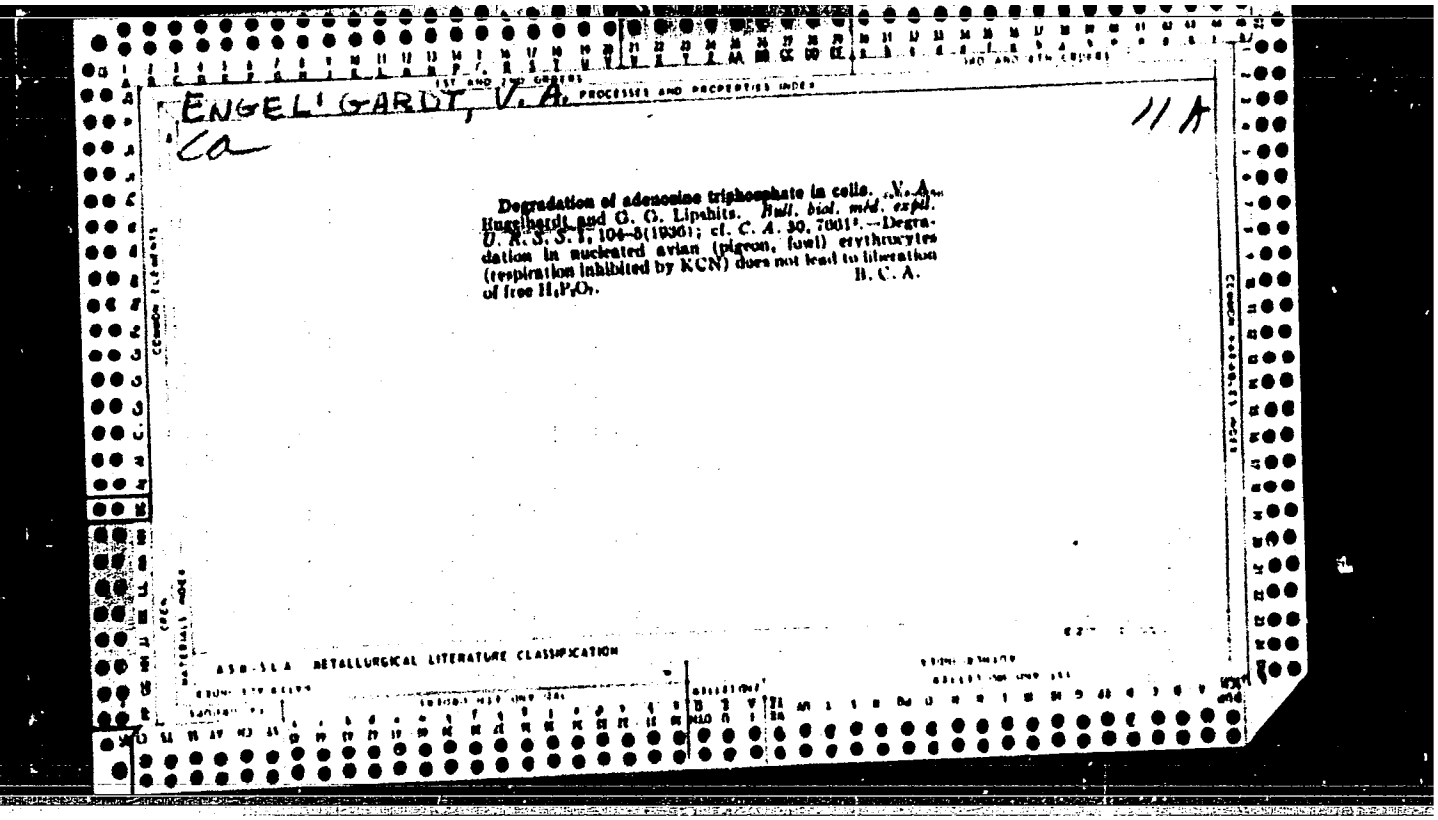
Immunohistochemical characteristics of one of the organ-specific antigens of the mouse liver. Biul. eksp. biol. i med. 56 no.11: 97-101 O [i.e. N] '63. (MIRA 17:11)

1. Iz otdela immunologii i onkologii (zav. - prof. L.A. Zil'ber) Instituta epidemiologii i mikrobiologii imeni Gamalei (dir. - prof. P.A. Vershilova) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR L.A. Zil'berom.

ENGEL'GARDT, N.V.

Use of antibodies against γ-globulin in the indirect method of fluorescent antibodies. Biul. eksp. biol. i med. 57 no.1: 67-70 Ja '64. (MIRA 17:10)

1. Otdel immunologii i onkologii (zav. - prof. L.A. Zil'ber) Instituta epidemiologii i mikrobiologii imeni N.F. Gamalei (dir. - prof. P.A. Vershilova) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR L.A. Zil'berom.



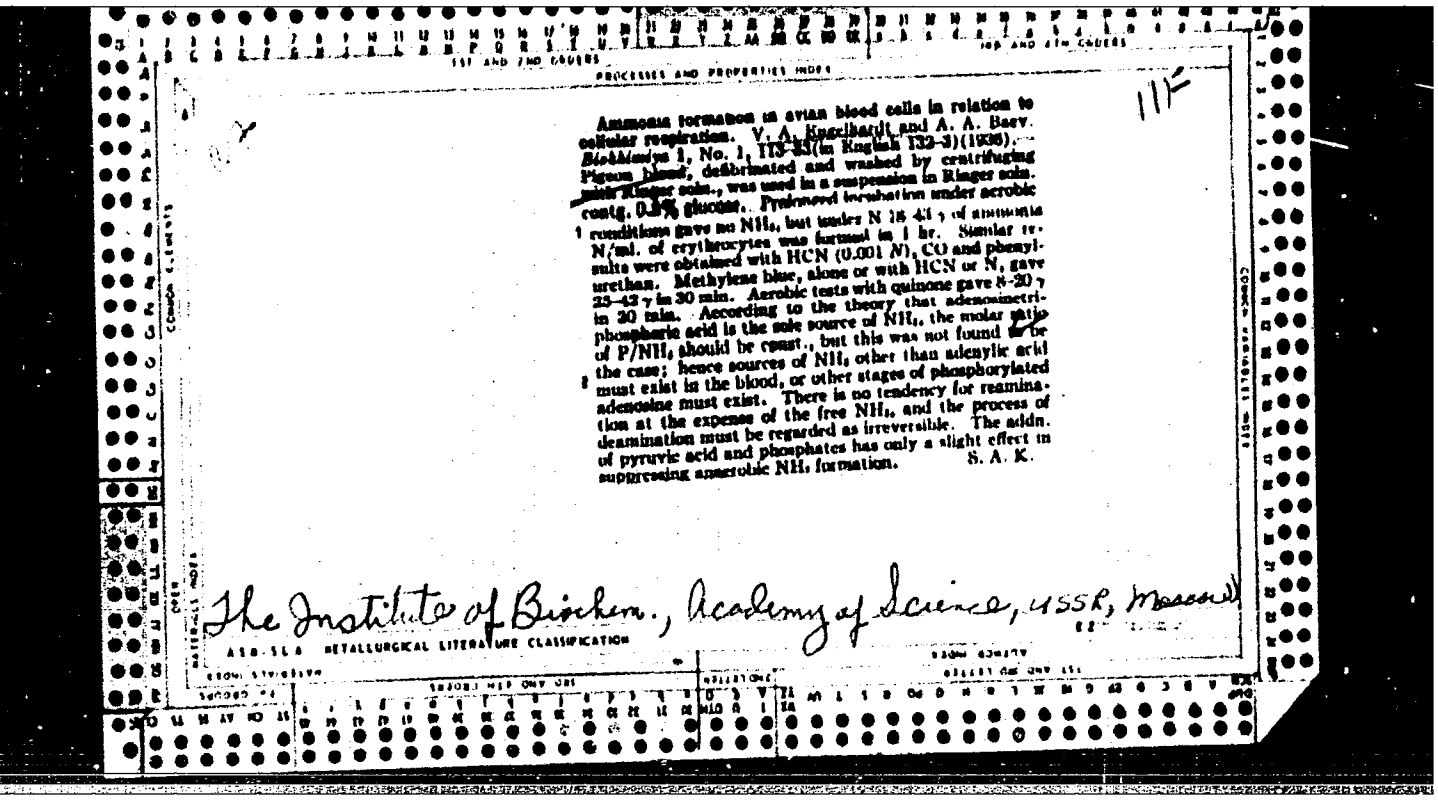
ENGEL'GARDT, V. A.

Ca

11 A

Degradation of adenosine triphosphate in cells. V. A. Engelhardt and G. G. Lipshits. *Bull. biol. med. exptl. U. R. S. S.* 1, 104–8(1936); cf. *C. A.* 30, 7001⁹.—Degradation in nucleated avian (pigeon, fowl) erythrocytes (respiration inhibited by KCN) does not lead to liberation of free H_3PO_4. B. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

Ammonia formation in avian blood cells in relation to cellular respiration. V. A. Engelhardt and A. A. Baev. *Biokhimiya* 1, No. 1, 113-33 (in English 132-3) (1936). Pigeon blood, defibrinated and washed by centrifuging with Ringer soln., was used in a suspension in Ringer soln. contg. 0.3% glucose. Prolonged incubation under aerobic conditions gave no NH_3, but under N 18-43 γ of ammonia N/ml. of erythrocytes was formed in 1 hr. Similar results were obtained with HCN (0.001 *N*), CO and phenylurethan. Methylene blue, alone or with HCN or N, gave 25-43 γ in 30 min. Aerobic tests with quinone gave 8-20 γ in 20 min. According to the theory that adenosinetriphosphoric acid is the sole source of NH_3, the molar ratio of P/NH_3 should be const., but this was not found to be the case; hence sources of NH_3 other than adenylic acid must exist in the blood, or other stages of phosphorylated adenosine must exist. There is no tendency for reamination at the expense of the free NH_3, and the process of deamination must be regarded as irreversible. The addn. of pyruvic acid and phosphates has only a slight effect in suppressing anaerobic NH_3 formation. S. A. K.

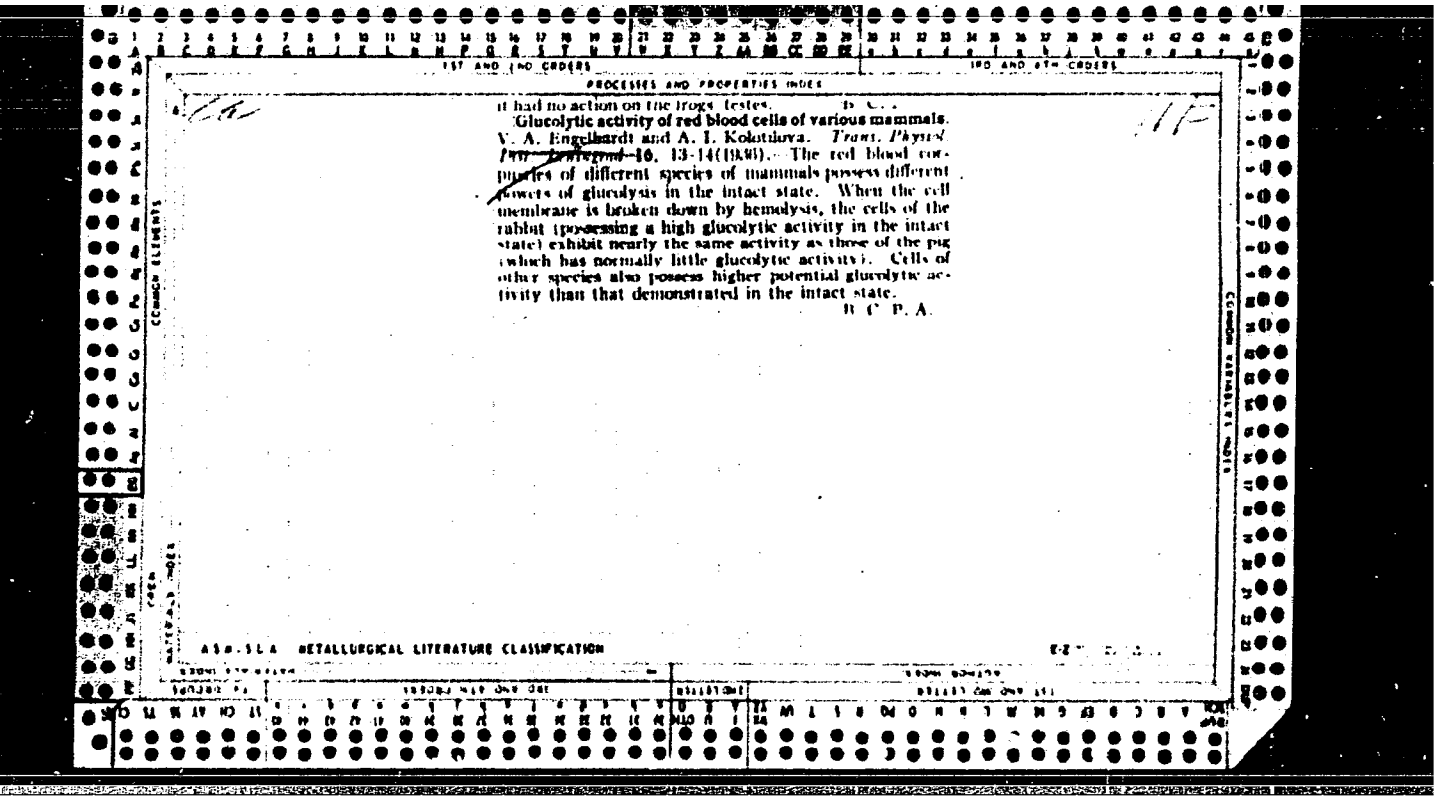
The Institute of Biochem., Academy of Science, USSR, Moscow

A58-SL8 METALLURGICAL LITERATURE CLASSIFICATION

ENGELHARDT

"XVth International Congress of Physiologists", (p. 160) by Anokhin, Azimov, Belkin, Koshtoyants, Steppun, Engelhardt

SO: Advance in Contemporary Biology (USPEKHI SOVREMENNOI BIOLOGII) Vol. V, No. 1 1936



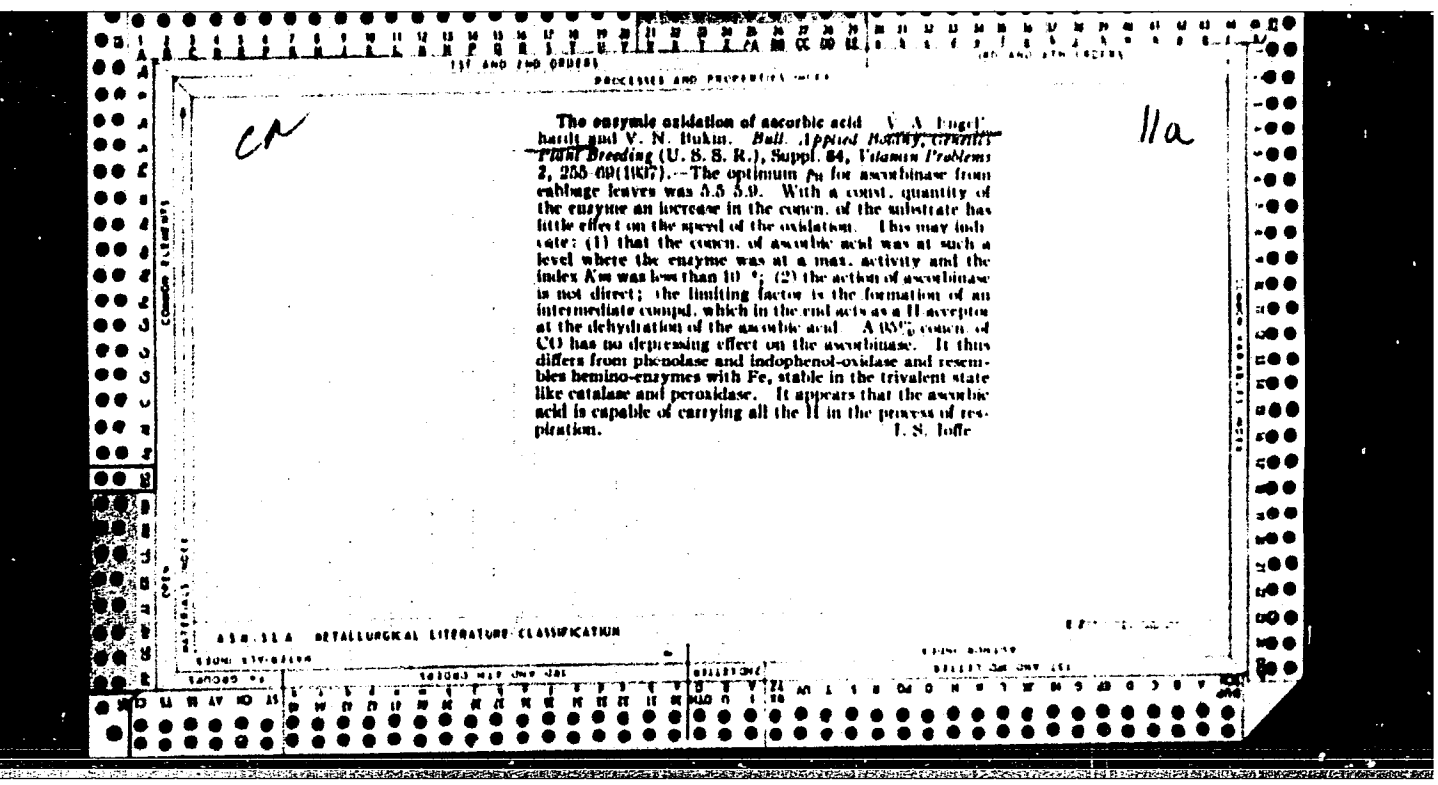
PROCESSES AND PROPERTIES INDEX

it had no action on the frogs testes.

Glucolytic activity of red blood cells of various mammals. V. A. Engelhardt and A. I. Kolotilova. *Trans. Physiol. Inst. Leningrad* 16, 13-14(1938).—The red blood corpuscles of different species of mammals possess different powers of glucolysis in the intact state. When the cell membrane is broken down by hemolysis, the cells of the rabbit (possessing a high glucolytic activity in the intact state) exhibit nearly the same activity as those of the pig (which has normally little glucolytic activity). Cells of other species also possess higher potential glucolytic activity than that demonstrated in the intact state.

H. C. P. A.

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



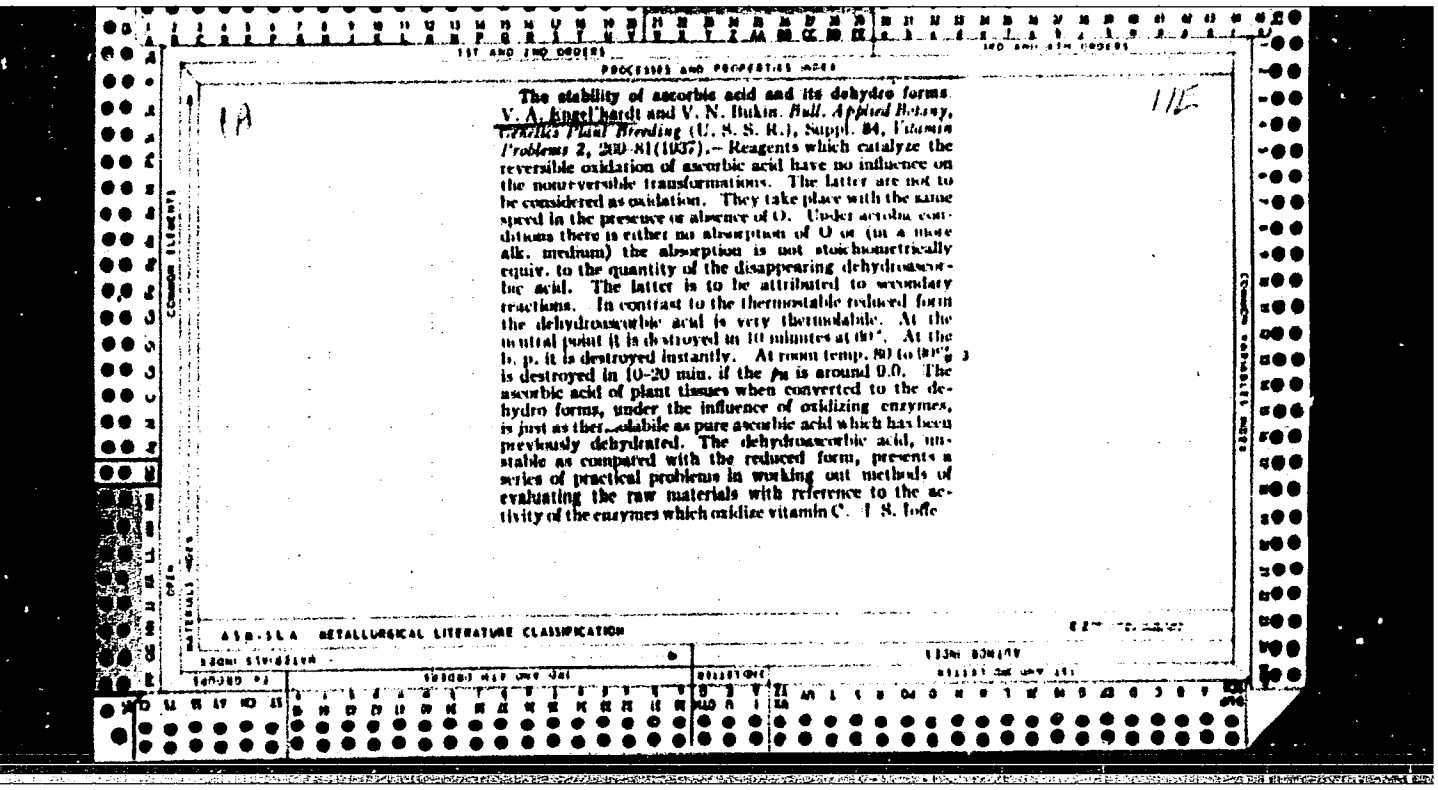
CN

11a

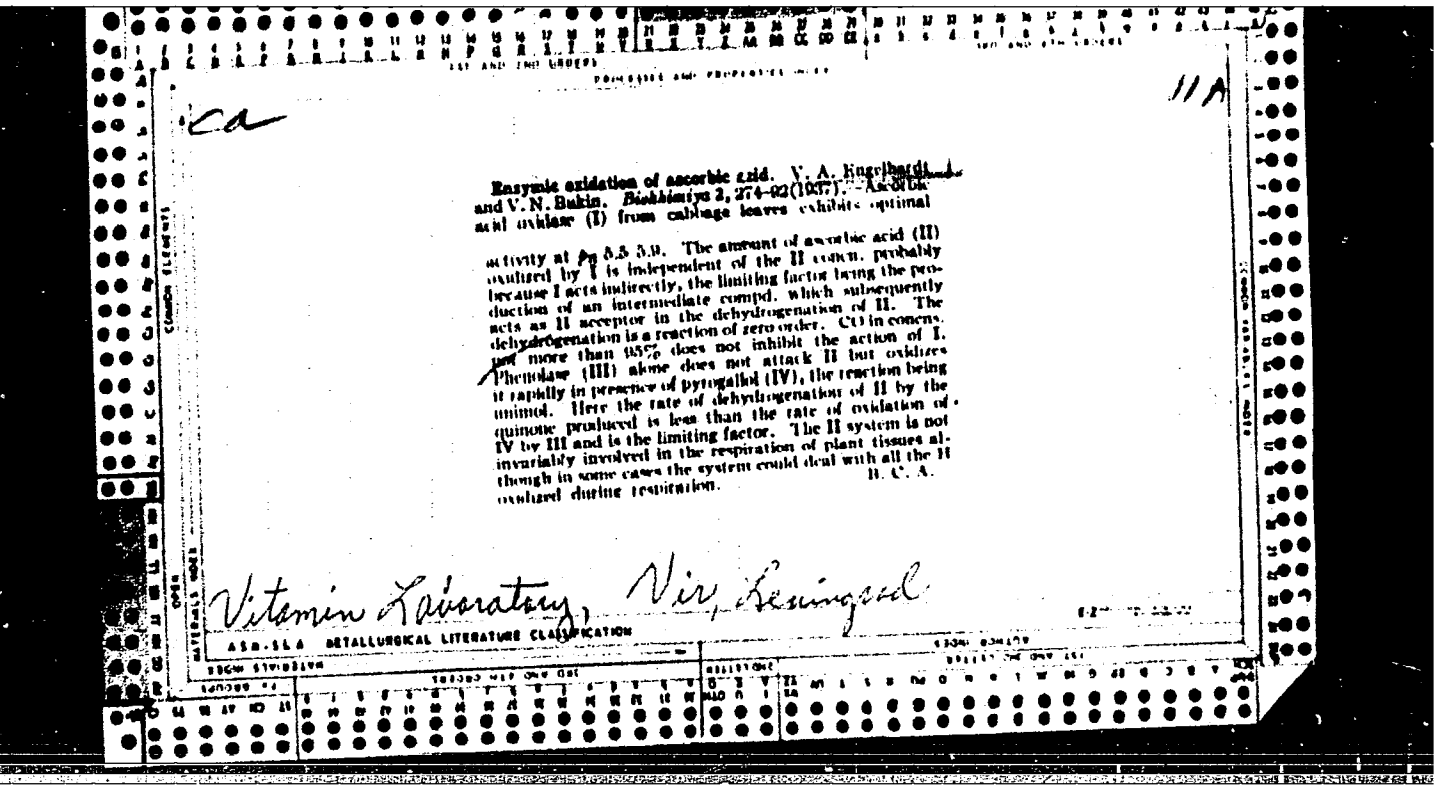
The enzymic oxidation of ascorbic acid. V. A. Engelhardt and V. N. Bukin. *Bull. Applied Botany, Genetics Plant Breeding* (U. S. S. R.), Suppl. 84, *Vitamin Problems* 2, 255-69(1937).—The optimum p_H for ascorbinase from cabbage leaves was 5.5-5.9. With a const. quantity of the enzyme an increase in the concn. of the substrate has little effect on the speed of the oxidation. This may indicate: (1) that the concn. of ascorbic acid was at such a level where the enzyme was at a max. activity and the index K_m was less than 10 $^{-4}$; (2) the action of ascorbinase is not direct; the limiting factor is the formation of an intermediate compd. which in the end acts as a H acceptor at the dehydration of the ascorbic acid. A 95% concn. of CO has no depressing effect on the ascorbinase. It thus differs from phenolase and indophenol-oxidase and resembles hemino-enzymes with Fe, stable in the trivalent state like catalase and peroxidase. It appears that the ascorbic acid is capable of carrying all the H in the process of respiration.

I. S. Ioffe

A38.31A METALLURGICAL LITERATURE CLASSIFICATION



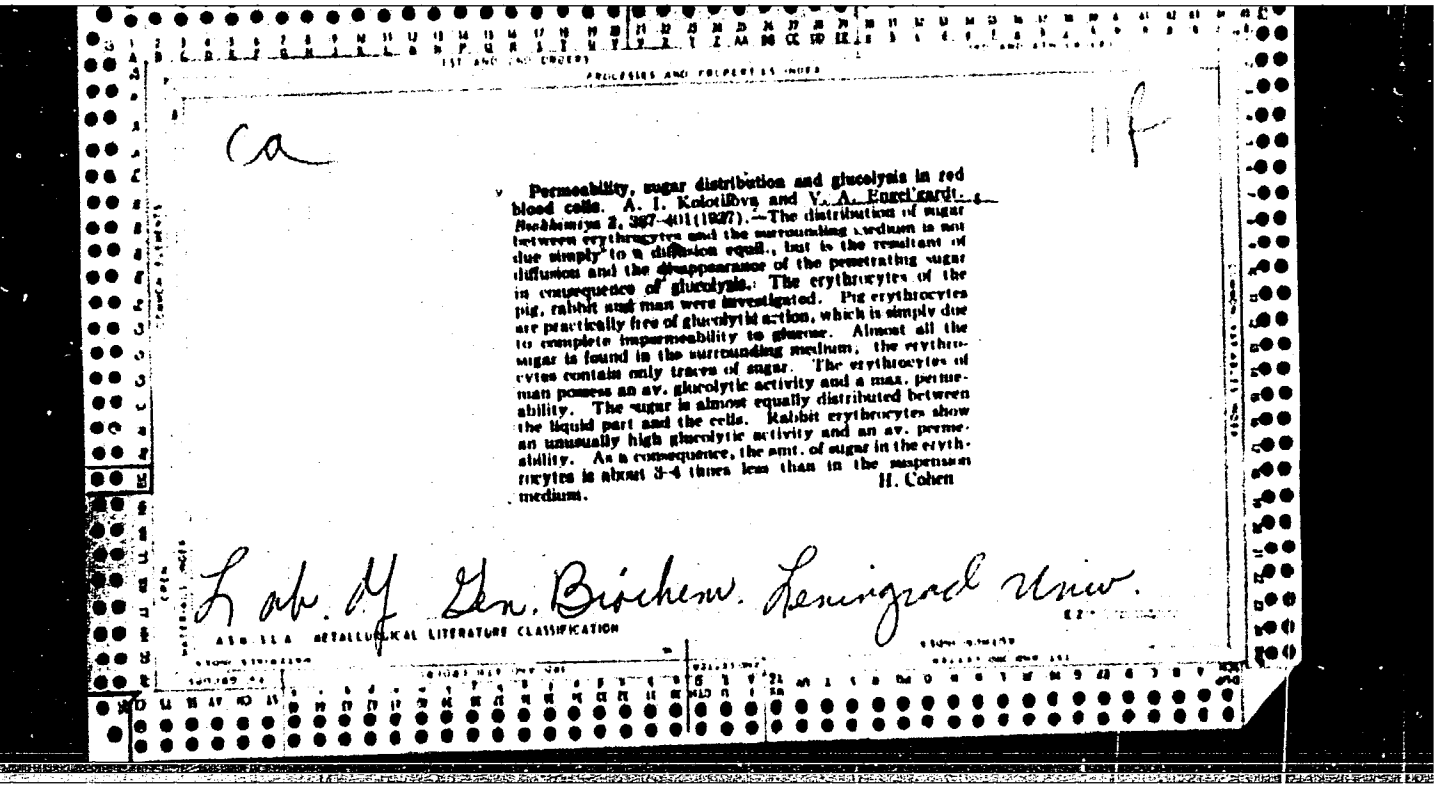
The stability of ascorbic acid and its dehydro forms. V. A. Engel'hardt and V. N. Bukin. *Bull. Applied Botany, Genetics Plant Breeding* (U. S. S. R.), Suppl. 84, *Vitamin Problems* 2, 289-81 (1937).—Reagents which catalyze the reversible oxidation of ascorbic acid have no influence on the nonreversible transformations. The latter are not to be considered as oxidation. They take place with the same speed in the presence or absence of O. Under aerobic conditions there is either no absorption of O or (in a more alk. medium) the absorption is not stoichiometrically equiv. to the quantity of the disappearing dehydroascorbic acid. The latter is to be attributed to secondary reactions. In contrast to the thermostable reduced form the dehydroascorbic acid is very thermolabile. At the neutral point it is destroyed in 10 minutes at 100°. At the b. p. it is destroyed instantly. At room temp. 80 to 90% is destroyed in 10–20 min. if the p_H is around 9.0. The ascorbic acid of plant tissues when converted to the dehydro forms, under the influence of oxidizing enzymes, is just as thermolabile as pure ascorbic acid which has been previously dehydrated. The dehydroascorbic acid, unstable as compared with the reduced form, presents a series of practical problems in working out methods of evaluating the raw materials with reference to the activity of the enzymes which oxidize vitamin C. I. S. Ioffe



Enzymic oxidation of ascorbic acid. V. A. Engelhardt and V. N. Bukin. *Biokhimiya* 2, 274-92(1937). - Ascorbic acid oxidase (I) from cabbage leaves exhibits optimal activity at p_H 5.5-5.9. The amount of ascorbic acid (II) oxidized by I is independent of the II concn. probably because I acts indirectly, the limiting factor being the production of an intermediate compd. which subsequently acts as II acceptor in the dehydrogenation of II. The dehydrogenation is a reaction of zero order. CO in concns. not more than 95% does not inhibit the action of I. Phenolase (III) alone does not attack II but oxidizes it rapidly in presence of pyrogallol (IV), the reaction being uninhd. Here the rate of dehydrogenation of II by the quinone produced is less than the rate of oxidation of IV by III and is the limiting factor. The II system is not invariably involved in the respiration of plant tissues although in some cases the system could deal with all the II oxidized during respiration. B. C. A.

Vitamin Laboratory, Vir, Leningrad.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Ca

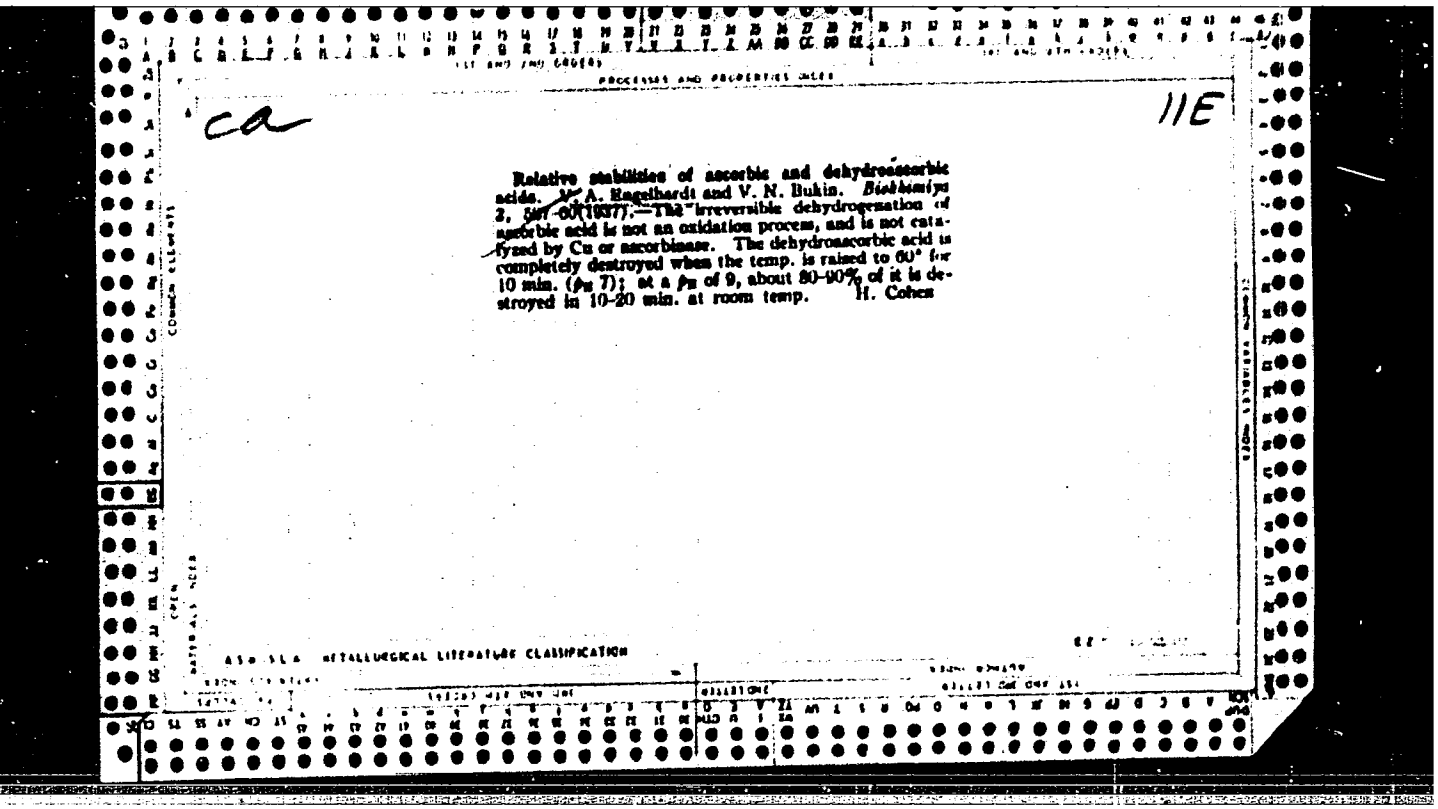
11f

Permeability, sugar distribution and glucolysis in red blood cells. A. I. Kolotilova and V. A. Engel'gardt. *Biokhimiya* 2, 387–401 (1937).—The distribution of sugar between erythrocytes and the surrounding medium is not due simply to a diffusion equil., but is the resultant of diffusion and the disappearance of the penetrating sugar in consequence of glucolysis. The erythrocytes of the pig, rabbit and man were investigated. Pig erythrocytes are practically free of glucolytic action, which is simply due to complete impermeability to glucose. Almost all the sugar is found in the surrounding medium, the erythrocytes contain only traces of sugar. The erythrocytes of man possess an av. glucolytic activity and a max. permeability. The sugar is almost equally distributed between the liquid part and the cells. Rabbit erythrocytes show an unusually high glucolytic activity and an av. permeability. As a consequence, the amt. of sugar in the erythrocytes is about 3–4 times less than in the suspension medium.

H. Cohen

Lab. of Gen. Biochem. Leningrad Univ.

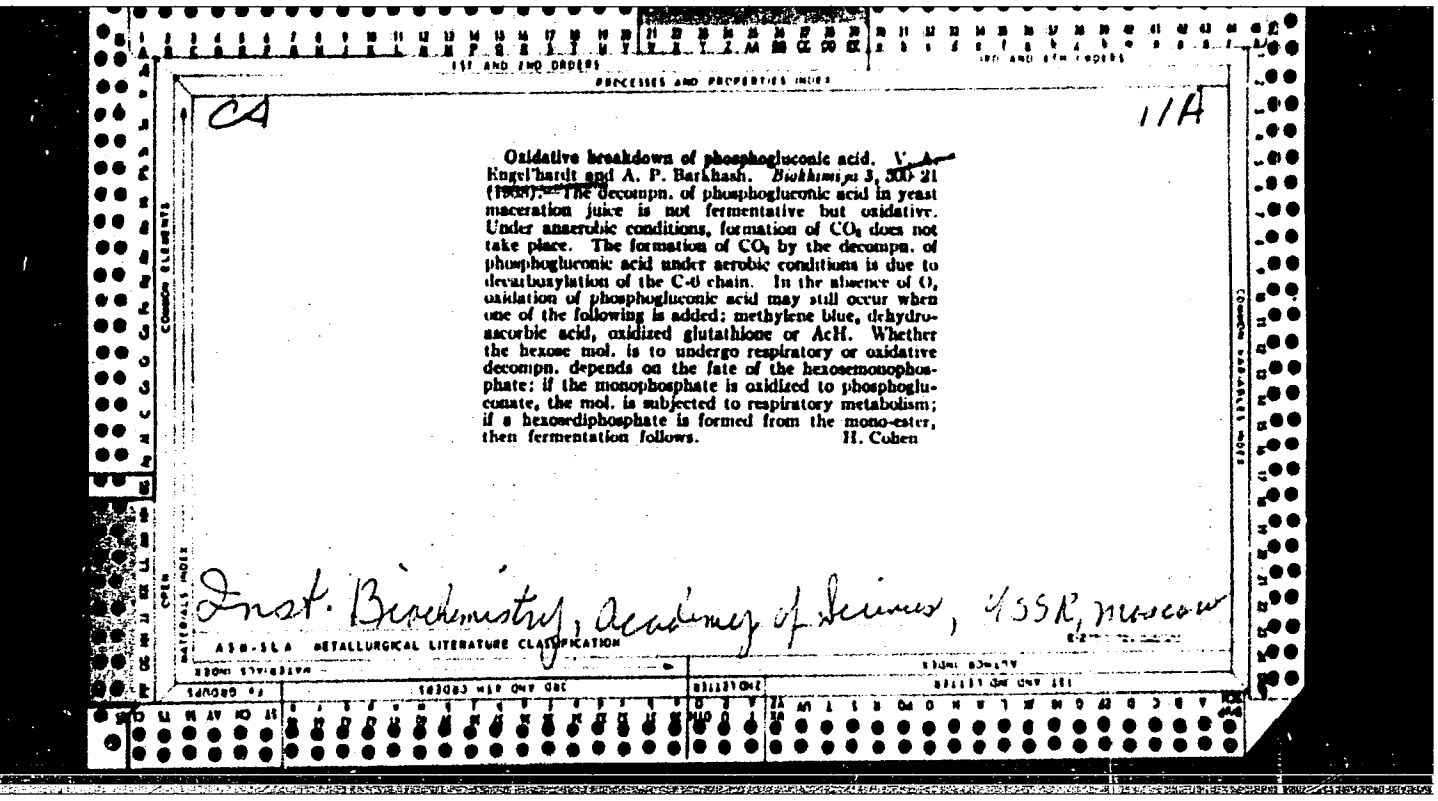
A 38-11 A METALLURGICAL LITERATURE CLASSIFICATION



ca

11E

Relative stabilities of ascorbic and dehydroascorbic acids. A. Engelhardt and V. N. Bukin. *Biokhimiya* 2, 587-600(1937).—The irreversible dehydrogenation of ascorbic acid is not an oxidation process, and is not catalyzed by Cu or ascorbinase. The dehydroascorbic acid is completely destroyed when the temp. is raised to 60° for 10 min. (p_H 7); at a p_H of 9, about 80-90% of it is destroyed in 10-20 min. at room temp. H. Cohen

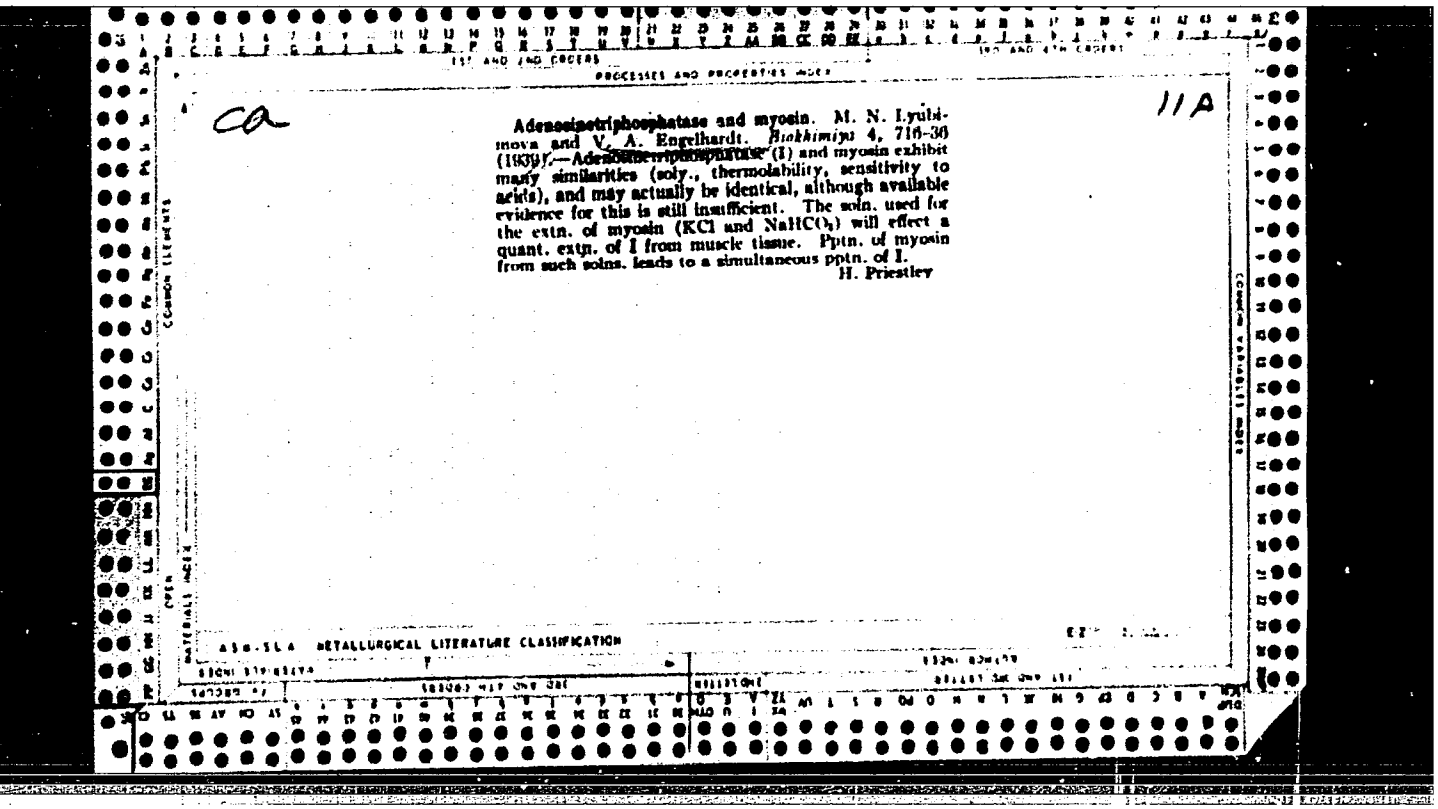


CA

11A

Oxidative breakdown of phosphogluconic acid. V. A. Engel'hardt and A. P. Barkhash. *Biokhimiya* 3, 500-21 (1938). The decompn. of phosphogluconic acid in yeast maceration juice is not fermentative but oxidativ. Under anaerobic conditions, formation of CO_2 does not take place. The formation of CO_2 by the decompn. of phosphogluconic acid under aerobic conditions is due to decarboxylation of the C-6 chain. In the absence of O_2 oxidation of phosphogluconic acid may still occur when one of the following is added: methylene blue, dehydroascorbic acid, oxidized glutathione or AcH. Whether the hexose mol. is to undergo respiratory or oxidative decompn. depends on the fate of the hexosemonophosphate; if the monophosphate is oxidized to phosphogluconate, the mol. is subjected to respiratory metabolism; if a hexosediphosphate is formed from the mono-ester, then fermentation follows. H. Cohen

Inst. Biochemistry, Academy of Sciences, USSR, Moscow



Ca

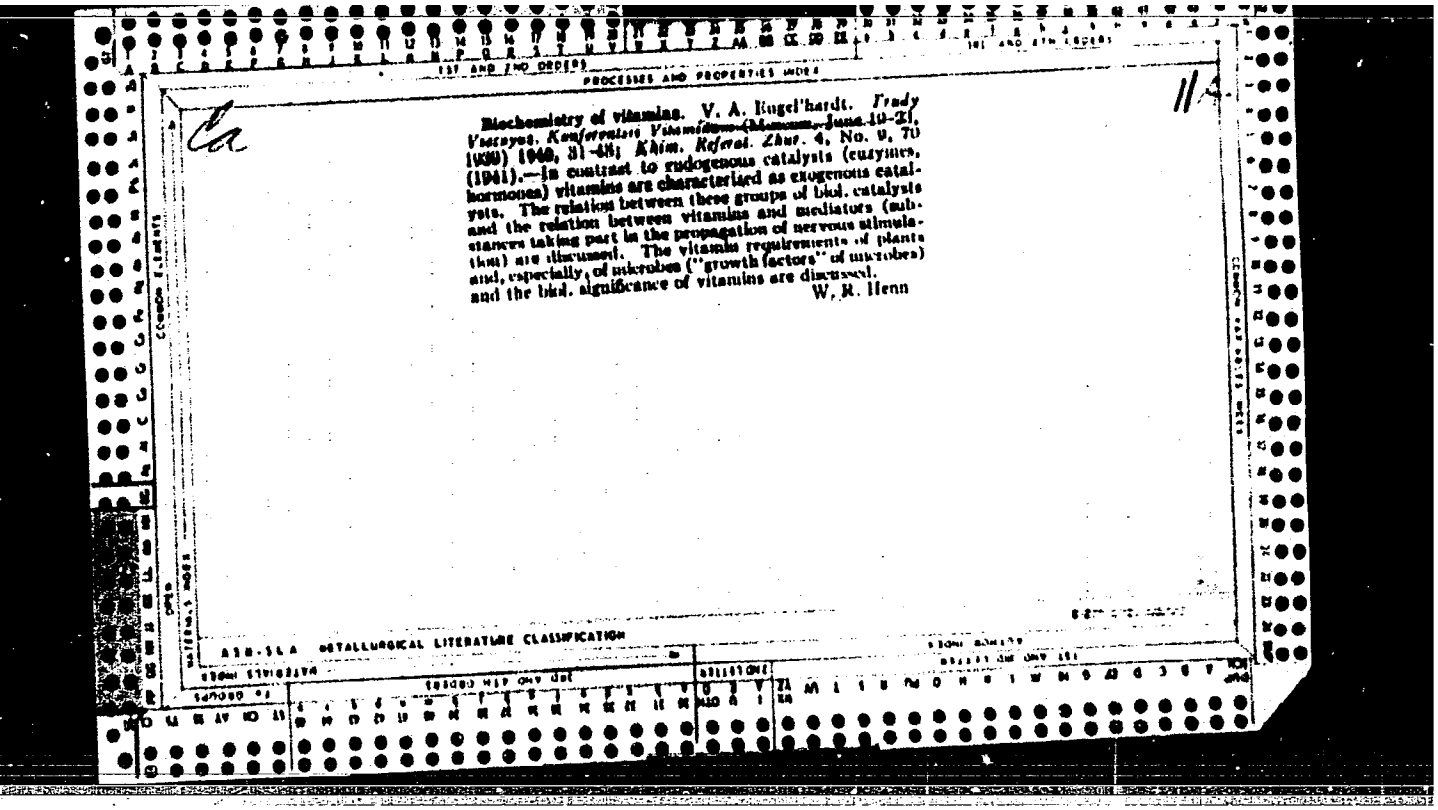
11A

Adenosinetriphosphatase and myosin. M. N. Lyubimova and V. A. Engelhardt. *Biokhimiya* 4, 716-36 (1939).—Adenosinetriphosphatase (I) and myosin exhibit many similarities (solv., thermolability, sensitivity to acids), and may actually be identical, although available evidence for this is still insufficient. The soln. used for the extn. of myosin (KCl and $NaHCO_3$) will effect a quant. extn. of I from muscle tissue. Pptn. of myosin from such solns. leads to a simultaneous pptn. of I.
H. Priestley

A56-51A METALLURGICAL LITERATURE CLASSIFICATION

ENGEL'GARDT, V. A.

"Chemism and Fermentation Agents," Mikrobiology, 8, No. 3-4, 1939.



PROCESSES AND PROPERTIES INDEX

Ca

Biochemistry of vitamins. V. A. Engel'hardt. *Trudy Vsesoyuz. Konferentsii Vitaminam* (Moscow, June 10-21, 1938) **1940**, 31-48; *Khim. Referat. Zhur.* 4, No. 9, 70 (1941).—In contrast to endogenous catalysts (enzymes, hormones) vitamins are characterized as exogenous catalysts. The relation between these groups of biol. catalysts and the relation between vitamins and mediators (substances taking part in the propagation of nervous stimulation) are discussed. The vitamin requirements of plants and, especially, of microbes ("growth factors" of microbes) and the biol. significance of vitamins are discussed.

W. R. Henn

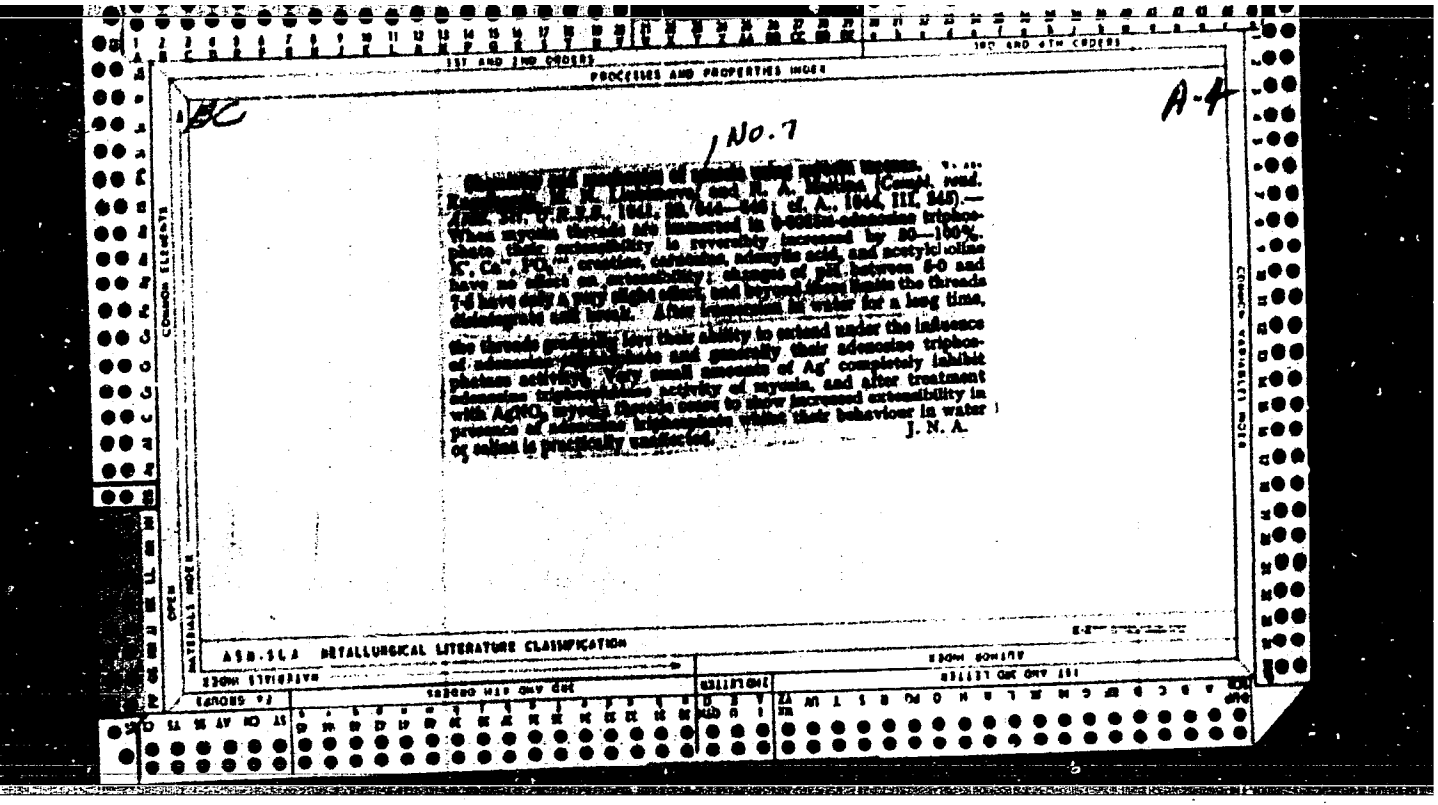
11

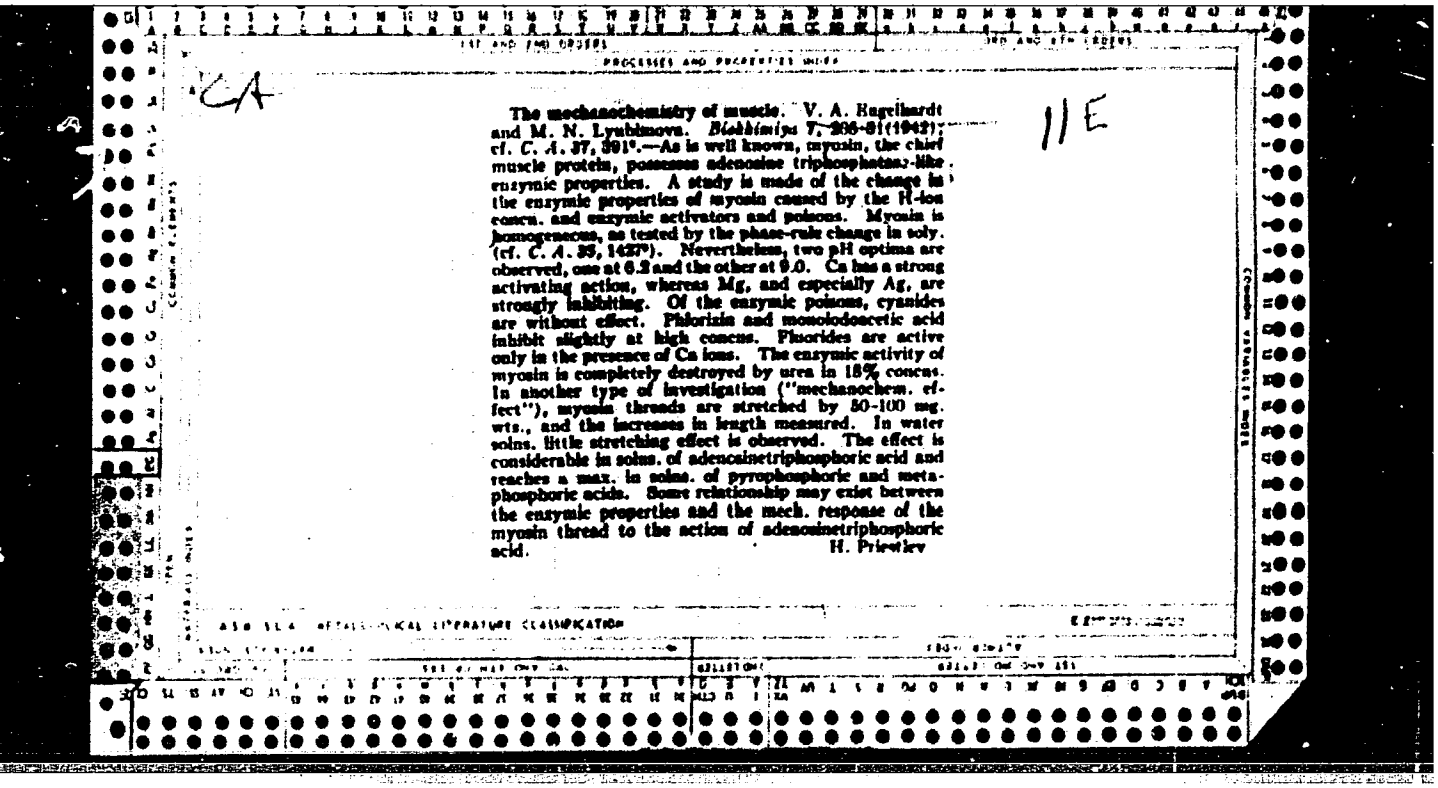
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ENGELHARDT, V. A.

"Enzymic and mechanical properties of the muscle proteins." (p. 177) by V. A. Engelhardt.

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologie) Vol. XIV, No. 2, 1941



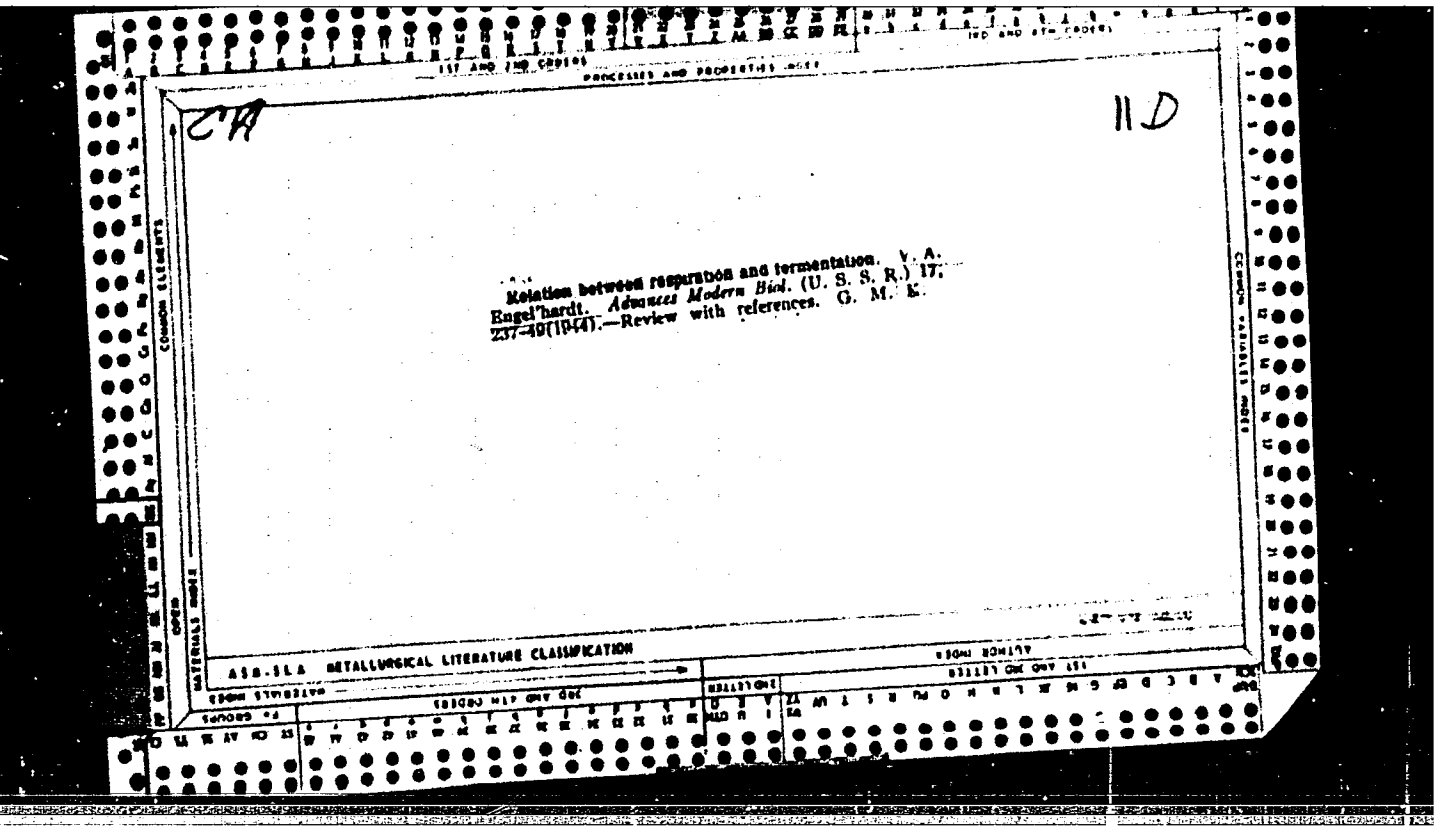


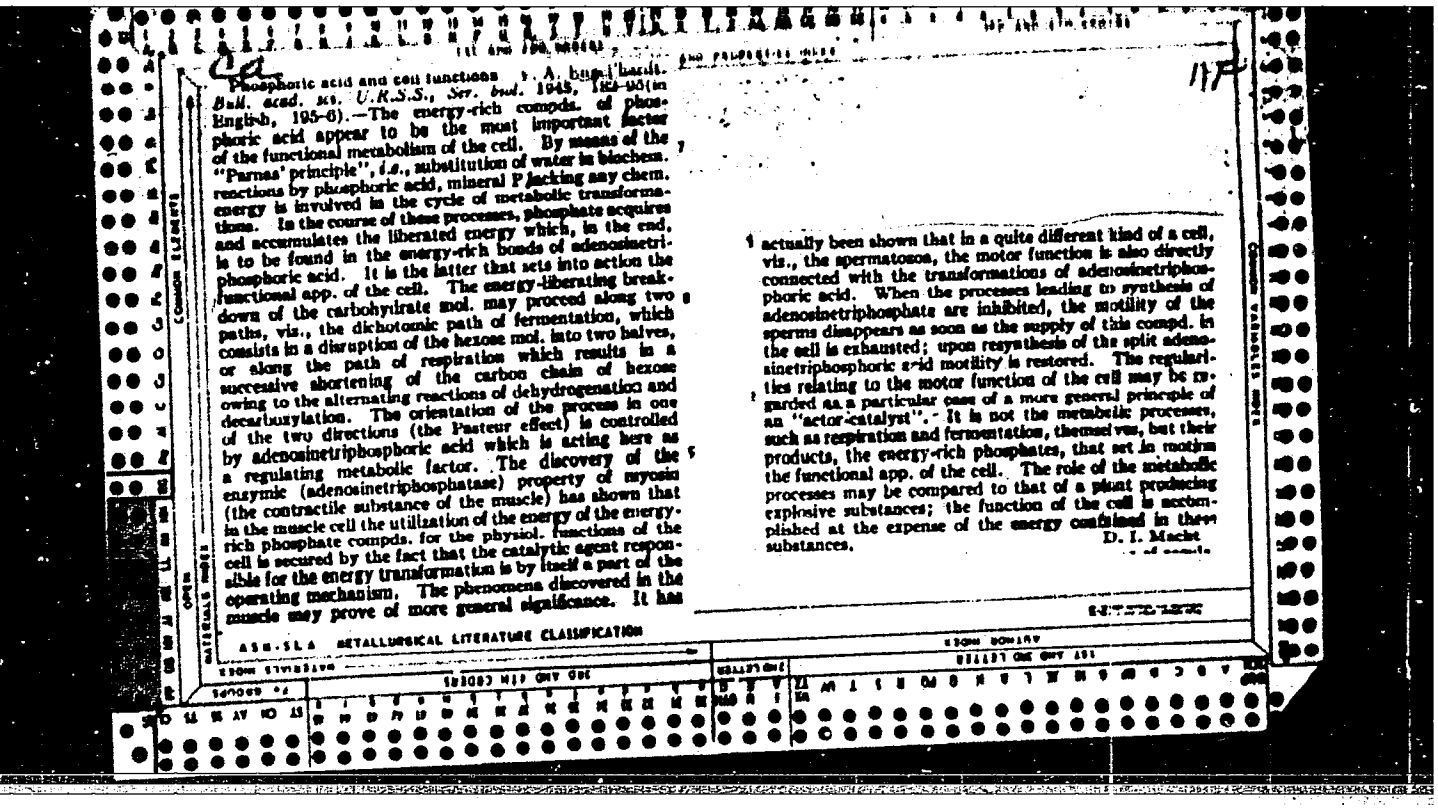
CA

11 E

The mechanochemistry of muscle. V. A. Engelhardt and M. N. Lyubimova. *Biokhimiya* 7, 206-81(1942); cf. *C. A.* 37, 391⁹.—As is well known, myosin, the chief muscle protein, possesses adenosine triphosphatase-like enzymic properties. A study is made of the change in the enzymic properties of myosin caused by the H-ion concn. and enzymic activators and poisons. Myosin is homogeneous, as tested by the phase-rule change in soly. (cf. *C. A.* 35, 1427⁹). Nevertheless, two pH optima are observed, one at 6.2 and the other at 9.0. Ca has a strong activating action, whereas Mg, and especially Ag, are strongly inhibiting. Of the enzymic poisons, cyanides are without effect. Phlorizin and monoiodoacetic acid inhibit slightly at high concns. Fluorides are active only in the presence of Ca ions. The enzymic activity of myosin is completely destroyed by urea in 18% concns. In another type of investigation ("mechanochem. effect"), myosin threads are stretched by 50-100 mg. wts., and the increases in length measured. In water solns. little stretching effect is observed. The effect is considerable in solns. of adenosinetriphosphoric acid and reaches a max. in solns. of pyrophosphoric and metaphosphoric acids. Some relationship may exist between the enzymic properties and the mech. response of the myosin thread to the action of adenosinetriphosphoric acid.

H. Priestley

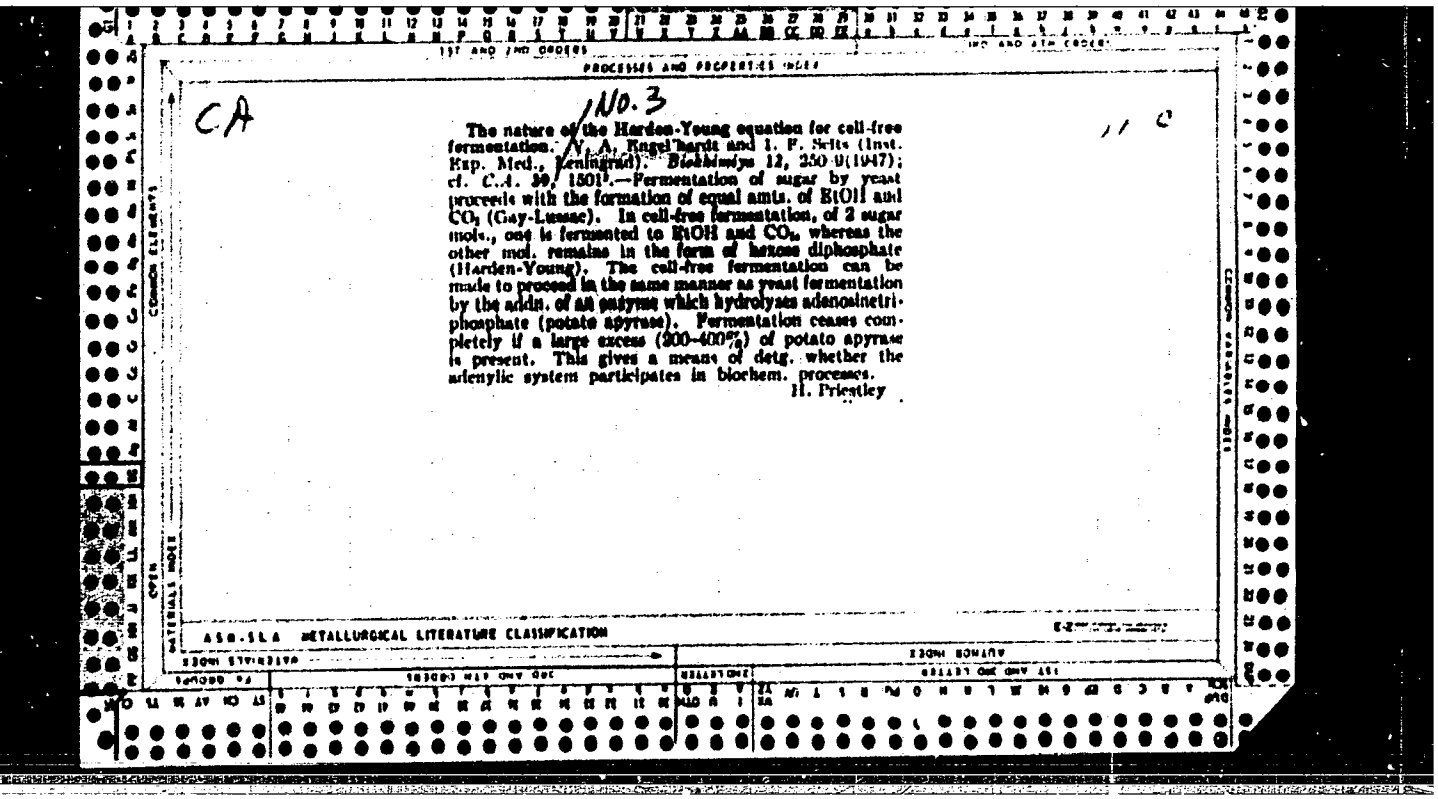




Phosphoric acid and cell functions. A. Bach [Basel]. *Bull. acad. sci. U.R.S.S., Ser. biol.* 1945, 183-95 (in English, 195-6).—The energy-rich compds. of phosphoric acid appear to be the most important factor of the functional metabolism of the cell. By means of the "Parnas' principle", *i.e.*, substitution of water in biochem. reactions by phosphoric acid, mineral P lacking any chem. energy is involved in the cycle of metabolic transformations. In the course of these processes, phosphate acquires and accumulates the liberated energy which, in the end, is to be found in the energy-rich bonds of adenosinetriphosphoric acid. It is the latter that sets into action the functional app. of the cell. The energy-liberating breakdown of the carbohydrate mol. may proceed along two paths, viz., the dichotomic path of fermentation, which consists in a disruption of the hexose mol. into two halves, or along the path of respiration which results in a successive shortening of the carbon chain of hexose owing to the alternating reactions of dehydrogenation and decarboxylation. The orientation of the process in one of the two directions (the Pasteur effect) is controlled by adenosinetriphosphoric acid which is acting here as a regulating metabolic factor. The discovery of the enzymic (adenosinetriphosphatase) property of myosin (the contractile substance of the muscle) has shown that in the muscle cell the utilization of the energy of the energy-rich phosphate compds. for the physiol. functions of the cell is secured by the fact that the catalytic agent responsible for the energy transformation is by itself a part of the operating mechanism. The phenomena discovered in the muscle may prove of more general significance. It has actually been shown that in a quite different kind of a cell, viz., the spermatozoa, the motor function is also directly connected with the transformations of adenosinetriphosphoric acid. When the processes leading to synthesis of adenosinetriphosphate are inhibited, the motility of the sperms disappears as soon as the supply of this compd. in the cell is exhausted; upon resynthesis of the split adenosinetriphosphoric acid motility is restored. The regularities relating to the motor function of the cell may be regarded as a particular case of a more general principle of an "actor-catalyst". It is not the metabolic processes, such as respiration and fermentation, themselves, but their products, the energy-rich phosphates, that set in motion the functional app. of the cell. The role of the metabolic processes may be compared to that of a plant producing explosive substances; the function of the cell is accomplished at the expense of the energy contained in these substances.

D. I. Macht

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

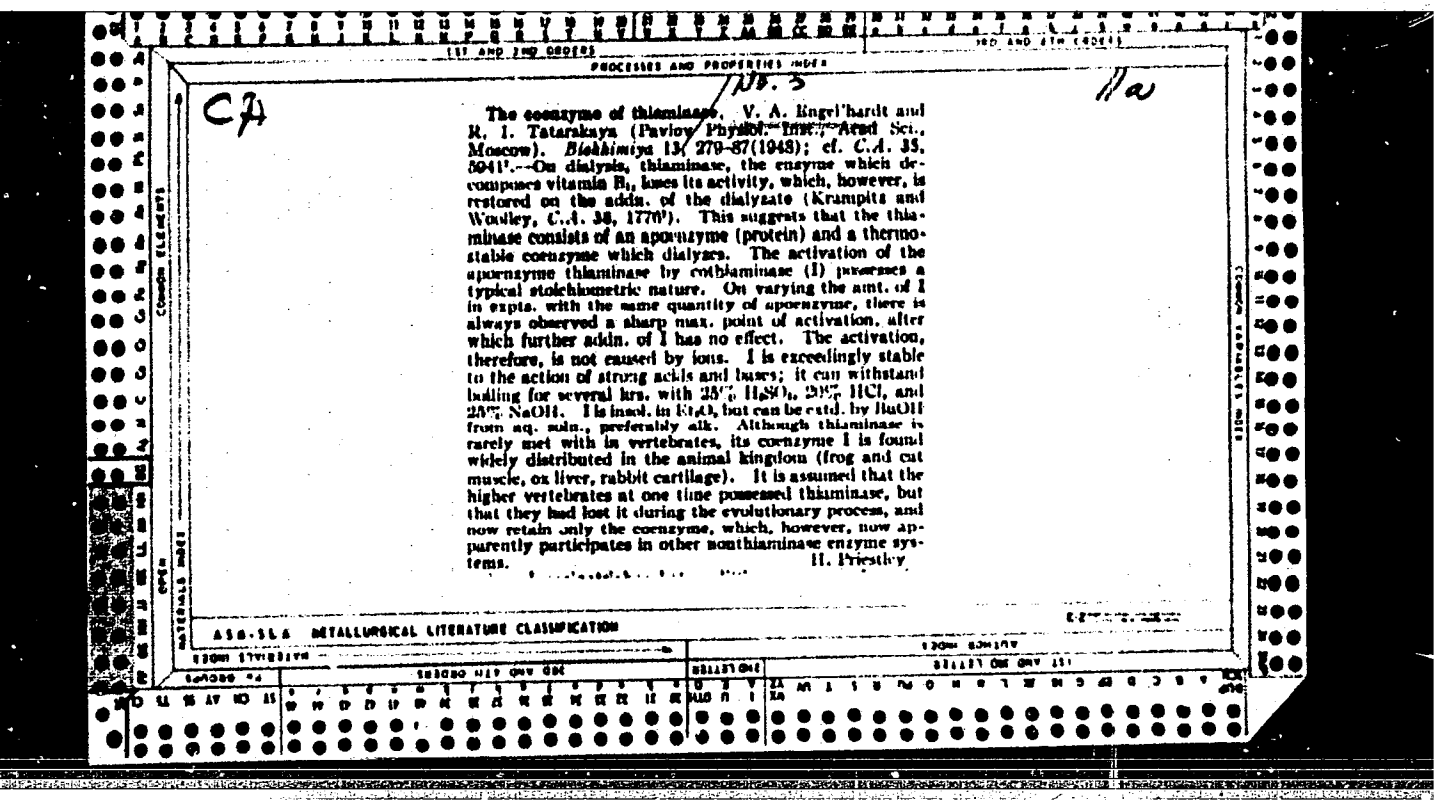


CA

NO. 3

The nature of the Harden-Young equation for cell-free fermentation. N. A. Nagel'hardt and I. F. Seits (Inst. Exp. Med., Leningrad). *Biokhimiya* 12, 250-9(1947); cf. *C.A.* 39, 1501⁹.—Fermentation of sugar by yeast proceeds with the formation of equal amts. of EtOH and CO_2 (Gay-Lussac). In cell-free fermentation, of 2 sugar mols., one is fermented to EtOH and CO_2, whereas the other mol. remains in the form of hexose diphosphate (Harden-Young). The cell-free fermentation can be made to proceed in the same manner as yeast fermentation by the addn. of an enzyme which hydrolyses adenosinetriphosphate (potato apyrase). Fermentation ceases completely if a large excess (200–400%) of potato apyrase is present. This gives a means of detg. whether the adenylic system participates in biochem. processes.

H. Priestley



CA

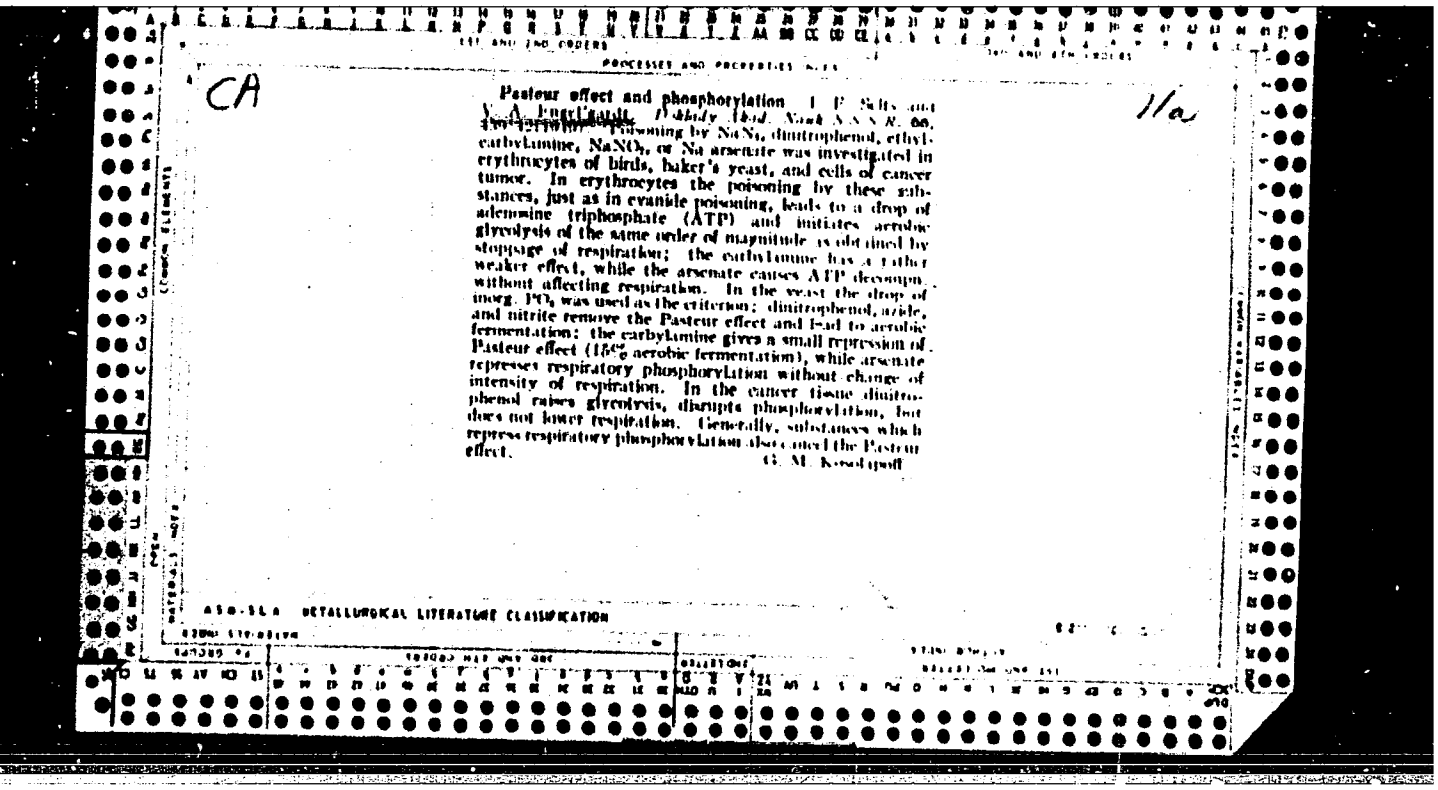
The coenzyme of thiaminase. V. A. Engel'hardt and R. I. Tatarskaya (Pavlov Physiol. Inst., Acad. Sci., Moscow). *Biokhimiya* 13, 279–87(1948); cf. *C.A.* 35, 5941⁹.—On dialysis, thiaminase, the enzyme which decomposes vitamin B_1, loses its activity, which, however, is restored on the addn. of the dialyzate (Krampitz and Woolley, *C.A.* 38, 1770⁹). This suggests that the thiaminase consists of an apoenzyme (protein) and a thermostable coenzyme which dialyzes. The activation of the apoenzyme thiaminase by cothiaminase (I) presents a typical stoichiometric nature. On varying the amt. of I in expts. with the same quantity of apoenzyme, there is always observed a sharp max. point of activation, after which further addn. of I has no effect. The activation, therefore, is not caused by ions. I is exceedingly stable to the action of strong acids and bases; it can withstand boiling for several hrs. with 25% H_2SO_4, 25% HCl, and 25% NaOH. I is insol. in Et_2O, but can be extd. by BuOH from aq. solns., preferably alk. Although thiaminase is rarely met with in vertebrates, its coenzyme I is found widely distributed in the animal kingdom (frog and cat muscle, ox liver, rabbit cartilage). It is assumed that the higher vertebrates at one time possessed thiaminase, but that they had lost it during the evolutionary process, and now retain only the coenzyme, which, however, now apparently participates in other nonthiaminase enzyme systems.

H. Priesley

CA

NO. 6

Respiratory phosphorylation and the Pasteur effect. I. F. Belts and V. A. Engelhardt (Acad. Med. Sci., Leningrad). *Biokhimiya* 14, 487–98 (1949).—In common with methylene blue (*C.A.* 28, 331) and $NaNO_2$ (*C.A.* 30, 3550[9]), 2,4-dinitrophenol and NaN_3, when added in small amts. to nucleated pigeon erythrocytes, cause normal O absorption but prevent the resynthesis of adenosine triphosphate, thus resulting in "aerobic suffocation." Not only do these substances check respiratory phosphorylation (conclusively proved in expts. with P^{32} on pigeon erythrocytes), but they also cause glycolysis during respiration; that is, they remove the Pasteur effect. EtNC, the first "Pasteur poison" for muscle tissue discovered by Warburg (*C.A.* 30, 3710), is less effective than 2,4-dinitrophenol and NaN_3 for pigeon erythrocytes, both as regards the prevention of phosphorylation and the removal of the Pasteur effect. Hence, a weak Pasteur poison has only a slight effect on respiratory phosphorylation. Arsenates, which are known to check zymase phosphorylation, show a similar, although weaker action on respiratory phosphorylation. The action of 2,4-dinitrophenol, NaN_3, EtNC, $NaNO_2$, and Na_2HAsO_4 on baker's yeast is similar to that seen in nucleated erythrocytes, as regards respiratory phosphorylation and aerobic glycolysis. Mice cancer cells when treated with 2,4-dinitrophenol (0.00005 *M*) actually absorb more O than normally, but the synthesis of adenosine triphosphate decreases by 50%, and lactic acid formation increases by 100%. The simultaneous disturbance of respiratory phosphorylation and the removal of the Pasteur effect point to a relationship between these 2 functions of cell respiration. It is postulated that the first action of the respiratory poisons is directed towards the processes of respiratory phosphorylation, and as a consequence the Pasteur effect is removed. H. Priestley



CA

11a

Pasteur effect and phosphorylation. I. P. Saltz and V. A. Engel'gardt. *Doklady Akad. Nauk S.S.S.R.* 60, [illegible]. Poisoning by NaN$_3$, dinitrophenol, ethylcarbylamine, NaNO$_2$, or Na arsenate was investigated in erythrocytes of birds, baker's yeast, and cells of cancer tumor. In erythrocytes the poisoning by these substances, just as in cyanide poisoning, leads to a drop of adenosine triphosphate (ATP) and initiates aerobic glycolysis of the same order of magnitude as obtained by stoppage of respiration; the carbylamine has a rather weaker effect, while the arsenate causes ATP decomposition without affecting respiration. In the yeast the drop of inorg. PO_4 was used as the criterion; dinitrophenol, azide, and nitrite remove the Pasteur effect and lead to aerobic fermentation; the carbylamine gives a small repression of Pasteur effect (15% aerobic fermentation), while arsenate represses respiratory phosphorylation without change of intensity of respiration. In the cancer tissue dinitrophenol raises glycolysis, disrupts phosphorylation, but does not lower respiration. Generally, substances which repress respiratory phosphorylation abolished the Pasteur effect.

G. M. Kosolapoff

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

ENGELGARDT V. A.

6844. ENGELGARDT V. A. Enzyme systems participating in the formation of milk Uspjechi Savremennoi Biologiyi, Moscow 1950, 29/I (60-73)

Enzymatic participation in the synthesis of lactose is as follows: (1) Formation of galactose-1-phosphate from galactose and ATP by the enzyme galactokinase. (2) Formation of galactogen by phospherylysis. (3) Breakdown of the galactogen and combination with glucose to form lactose. Eggers Lura - Helbaek

SO: Excerpta Medica, Section IJ, Vol III, No 12

ENGEL'GARDT, V. A.

PA 163T3

USSR/Biology - Muscles Jun 50

"Photosensitizing Action of Methylene Blue on Myosin," V. A. Engel'gardt, Corr Mem, Acad Sci USSR, N. S. Demyanovskaya, T. V. Venkstern, Lab of Biochem, Physiol Inst imeni I. P. Pavlov, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXII, No 5, pp 923-926

Authors proved by experiments the muscle protein myosin will unite not only with muscle protein action, but also with itself, in polymerization process they call "homomerization." Method of proof involved use of methylene blue in myosin

163T3

USSR/Biology - Muscles (Contd) Jun 50

solution. When composite solution was exposed to light it developed great viscosity, finally becoming a gel. Noted effects of adenosinetriphosphoric acid on solution. Submitted 3 May 50

163T3

C.A.

2

M. V. Nentzkii (In Commemoration of the fiftieth anniversary of the day of his death). V. A. Engel'gardt. *Biokhimiya* 16, 485-94(1951).—A biography with portrait of the biochemist M. V. Nentzkii (1847-1901). H. P.

CP

Biological Chemistry
General - II

Enzymology of myosin. Separation of adenosinetriphosphatase and deaminase. V. A. Engel'gardt, M. N. Lyubimova, T. V. Venkstern, M. Yu. Tumaševa and Yu. I. Khokhlova (A. N. Bakh Biochem. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 85, 307-8(1952).—A sepn. of adenosinetriphosphatase (I) and deaminase activities of myosin was accomplished, although unequally in the quant. sense. I free deaminase can be obtained rather readily in almost 100% yield (activity) by thermal treatment, best 5 min. at 53°, since I is very thermolabile. The deaminase remains in soln. while the protein bulk of myosin undergoes coagulation and sepn. is readily made. The deaminase has globulin properties; on short dialysis it ppts. from soln. and continued dialysis causes a progressive decline of activity, which can be due to removal of a prosthetic group. The I free of deaminase activity is more difficult to obtain; for best results myosin preps. are pptd. by salts of La (0.004 *M*) which show selective ppth. of products with less and less deaminase activity as concn. of La is reduced. Best specimens retain about 5% of original deaminase activity. The pure deaminase preps. are unable to react with actin; best I preps. show activity comparable to that of normal myosin. Hence actin reaction is connected with the I part of the myosin complex. G. M. Kosolapoff

Engel'gardt, Corr Mem Acad Sci

USSR/Chemistry - International Congress Jan 53

"Second Biochemical Congress in Paris" By V. A. Engel'gardt, Corr Mem Acad Sci and V. N. Bukin, Professor.

Vest Ak Nauk, SSSR, No 1, 1953, pp 74-77.

Second Biochemical Congress was held in Paris in 1952. The following Soviet scientists were in the Soviet delegation: Acad A. I. Oparin (leader of the delegation), Corr Mem Acad Sci V. A. Engel'gardt, Prof A. N. Belozerskiy, V. N. Bukin, V. N. Butrov, V. N. Orekhovich. Following Russian papers were read: By Oparin "The Change of Action of Enzymes in Plant Cells under the influence of external effects," by Orekhovich "Procollagens, their chemical compositions, properties and biological role", by Engel'gardt "The Enzymology of Myosin", by Belozerskiy "The Antigen fractions of bacteria of the intestinal Group", by Bukin "Proteid Compounds of fat-soluble vitamins." Also 3 papers of scientists who did not attend; by Acad A. V. Palladin "Research on the Biochemistry of the Cerebrum", by Corr Mem Acad Sci Kh. S. Koshtoyants "The role of the active groups of Protein Substances in the Process of Nerve Regulation" and by Dr Biol Sci N. M. Sisakyan "The Enzymatic Function of Plastids."

271T8

ENGEL'GARDT, V. A.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Biological Chemistry

(13)

Phosphoproteins and cerebral metabolism. V. A. Engel'gardt and N. P. Lisovskaya (A. N. Bakh Inst. Biochem., Acad. Sc. U.S.S.R., Moscow). *Doklady Mezhdunarod. Fiziol. Kongr., Montreal* 19, 209–15 (in French, 216–22)(1953).—The specific activity of P^{32} in cerebral tissue was fractionated into inorg. (I) and protein P(II). Incubation of washed slices at 37° with P^{32} increased the specific activity of I about 2.5 times that at 0°. Similar treatment increased the specific activity of II more than 10 fold. Incubation of tissue with glucose plus NaCN, dinitrophenol, or NaN$_3$ decreased markedly the specific activity of II without affecting appreciably that of I. The metabolic importance of II is discussed in the light of these findings.

Herman I. Chinn

1. ENGEL'GARDT, V. A., BUKIN, V. N., Prof.

2. USSR (600)

4. Biochemistry - Congresses

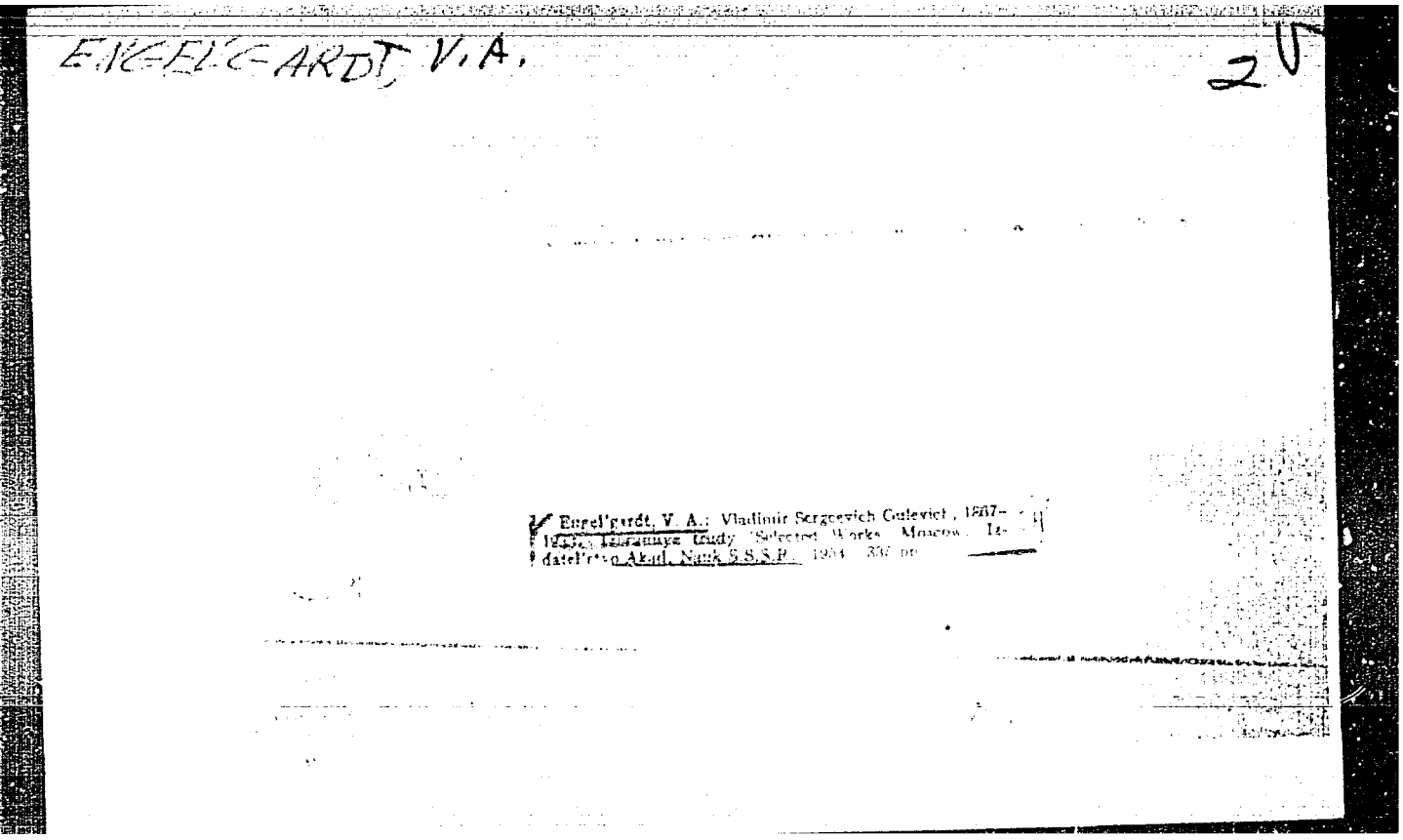
7. Second biochemical congress in Paris. Vest. AN SSSR 23, no. 1, 1953.

[illegible] List of Russian Accessions, Library of Congress, May 1953. Unclassified.

ENGEL'GARDT, V. A.

Chemical Abst.
Vol. 48
Apr. 10, 1954
Biological Chemistry

Contractile properties of film threads of pure myosin. K. A. Kafiani and V. A. Engel'gardt. *Doklady Akad. Nauk S.S.S.R.* 92, 385–8 (1953).—Purified myosin from rabbit muscle was formed into threads according to the method of Hayashi, *et al.* (*C.A.* 47, 2702c, 3871g). Introduction of 0.05*M* KCl contg. 0.005*M* adenosinetriphosphate (ATP) was used as a method of inducement of contraction which was measured by a tensiometer. ATP does not contract threads of globular and fibrillar actin; those of pure myosin contract vigorously (curves shown). Actomyosin threads contract best at pH 7; those of myosin at pH 9 and less at pH 7. This underscores the connection between mechano-chem. contraction of muscle and its adenosinetriphosphatase activity. Myosin threads contract by 8–10% with 17–20% increase of cross section. Thus syneresis is not connected with the contraction. Original length can be maintained by a small force (1–3 mg.), on the original fiber; as ATP-induced contraction proceeds the force required to maintain length rises to some 9 mg. at pH 9, and to about 5 mg. at pH 7 or 10. Actomyosin threads in the presence of a little protein matter develop forces up to 25 mg. A poorly formed thread of myosin kept under weak tension shows little tendency to contract against a load; but once the load is relieved and the thread allowed to assume its desired length, the contraction and the contractile force rise rapidly. A well-formed myosin thread, however, begins to show contractile force immediately after contact with ATP. Myosin thread contraction is reversible and numerous contraction-relaxation cycles can be run through. Thus myosin alone is capable of contraction with ATP. It is suggested that in a muscle the F-actin serves as a support for the myosin units which are the functional units. O. M. Kosolapoff



ENGELGARDT, V. A.

20

Engel'gardt, V. A.: Vladimir Sergeevich Guilevich, 1807–
1[illegible] Izbrannye Trudy [Selected Works] Moscow, Iz-
datel'stvo Akad. Nauk S.S.S.R., 1954. 336 pp.

ENGEL'GARDT, V.A.

USSR/Scientific Organization - Conventions

Card 1/1 Pub. 124 - 11/26

Authors : Engel'gardt, V. A.

Title : Friendly meetings of Soviet and Indian scientists

Periodical : Vest. AN SSSR 10, 57-63, Oct 1954

Abstract : Notes and observations by a member of the Soviet scientific delegation to the 41st All-Indian Scientific Congress of 1954 are presented. The names of the Soviet delegates attending the scientific congress in the city of Heyderabad, India, are listed.

Institution : .....

Submitted : .....

ENGEL'GARDT, V.A.

VENKSTERN, T.V.; ENGEL'GARDT, V.A.

[Surface localized adenosine polyphosphatase (ectoapyrase) of nucleated erythrocytes; papers and reports of the Third International Congress of Biochemistry, Brussels, 1-6 August, 1955] Poverkhnostno lokalizovannaia adenozinpolifosfatasa (ekto-apiraza) iadernykh eritrotsitov; doklady i soobshcheniia na III Mezhdunarodnom biokhimicheskom kongresse, Briussel', 1-6 avgusta 1955 g. Moskva, Izd-vo Akad. nauk SSSR, 1955. 18 p. [Parallel texts in Russian and French].
(ADENOSINEPHOSPHATASE) (MIRA 11:6)
(ERYTHROCYTES)

Englegnedt, V.A.

Hoop-Rmk

3986 AEC-tr-2435(Pt. 4) (p.1-14)
ACHIEVEMENTS AND PROSPECTS OF THE USE OF RADIOACTIVE ISOTOPES IN BIO-CHEMISTRY. V. A. Engelgardt. p.1-14 of CONFERENCE OF THE ACADEMY OF SCIENCES OF THE USSR ON THE PEACEFUL USES OF ATOMIC ENERGY, JULY 1-5, 1955 SESSION OF THE DIVISION OF BIOLOGICAL SCIENCE. (Translation) 14p.
This paper was originally abstracted from the Russian and apperred in Nuclear Science Abstracts as NSA 9-7853.

ENGEL'GARDT, V.A.

Ectoenzymes. Apyrase localized on the surface of nucleated erythrocytes. V. A. Engel'gardt and T. V. Venkstern (A. N. Bach Inst. Biochem., Moscow). *Congr. intern. biochim., Résumés communs., 3e Congr. Brussels* 1955, 68(in Russian and French).—A previous paper (cf. *C.A.* 49, 12550) is extended. The enzymic anatomy of cells is discussed. About 95% of the apyrase (adenosinepolyphosphatase) (I) of the nucleated erythrocytes [of birds] is on the surface of the cell. This ecto-I is not only spatially localized, but is also spatially oriented since it acts only on substrates in the ext. nal medium, but not on those within the cell. Destruction of the cells by hemolysis reduces its activity by 50%. It has some relation to the adenosinetriphosphatase found in the non-nucleated erythrocytes of mammals by other workers. W. C. Tobie

ENGEL'GRADT, V.

"USSR Work in Biochemistry Involving use of the Isotope Method", Meditsinskiy Rabotnik, Vol. 18, No. 60, pp 2-3, 1955.

[Comment: This report gives pertinent excerts from an article by Academician V. Engel'gardt entitled "Isotopes in Biochemistry," published in Meditsinskiy Rabotnik, Vol. 18, No. 60, 22 July 1955.]

Summary of Article-W-31462, 26 Sept 1955.

ENGEL'GARDT, V. A.

"The role played by oxidation substrates and by adenosine-triphosphate in phosphorprotein metabolism," V. A. Engel'gardt and N. P. Lisovskaya (A. N. Bakh Inst. Biochem., Acad. Sci. USSR, Moscow). Biokhimiya 20, 225-35 (1955).

The phosphoprotein metabolism of the brain is highly responsive to the presence of oxidation substrates such as glucose and mannose, but not to galactose, fructose, glutamic acid, and some components of the tricarboxylic acid cycle. A definite parallellism exists between the rates of phosphoprotein metabolism and adenosinetriphosphate (ATP) metabolism in the brain cells. Any reaction which causes the decompn. of ATP at the same time arrests phosphoprotein metabolism. The presence of ATP is a necessary but is not the singular condition for the proper phospho-protein metabolism, since in some expts. in which the resynthesis of ATP (oxidation of fructose and of pyruvic acid) was high showed only slight evidence of phosphoprotein metabolism.

B.S. Levine

Are adenosinetriphosphatase and myosin identical? V. A. Engel'gardt and G. A. Yarovaya (Inst. Biochem., Acad. Sci. U.S.S.R., Moscow). *Ukrain. Biokhim. Zhur.* 27, 312-23(1955)(in Russian).—The object of the expts. was to det. whether the properties of adenosinetriphosphatase (I) are those of myosin (II) or whether there is in II prepns. a single specific and independent I which can not be obtained in a pure II-free state by any of the available methods of prepn. The expts. were performed with trichloroacetic ppted. II of rabbit muscles. When the addn. of adenosinetriphosphate (ATP) to the II prepn. failed to lower its viscosity, the freedom of II from actomyosin was thought to have been established. The test was performed as follows: to 1 ml. of soln. of II contg. 3 mg. of protein/ml. was added 1 ml. soln. of polymerized actin (4 mg./ml.) directly in the viscosimeter at 20°. Control tests were made to det. the effect of temp. from 20 to 45° on the phosphatase activity of II and its ability to react with actin. Changes were detd. in the activity of I of II and its reactivity with actin at pH 4.0-10.0; changes in the I activity and its reactivity with actin at Cd-ion concns. of 0.1, 10^{-4}, 10^{-4}, 2×10^{-4}, 5×10^{-4}, and $10^{-3}M$; changes in I activity of II and its reactivity with actin at Ag-ion concns. of 0, 10^{-4}, 5×10^{-4}, 10^{-4}, and $10^{-3}M$. Results indicated that under all expti. conditions changes in the properties of II to split ATP and to react with actin ran parallel courses qualitatively and quantitatively, although the data related to the changes in the enzymic activity were of a higher level than those related to reactivity with actin. An extensive theoretical discussion is presented as a result of which it is concluded that the ATPase activity and reactivity with actin belong to one and the same protein presently known as II, but which should differ in its ionic environment. H. S. I.